

# ARCHITECTURE

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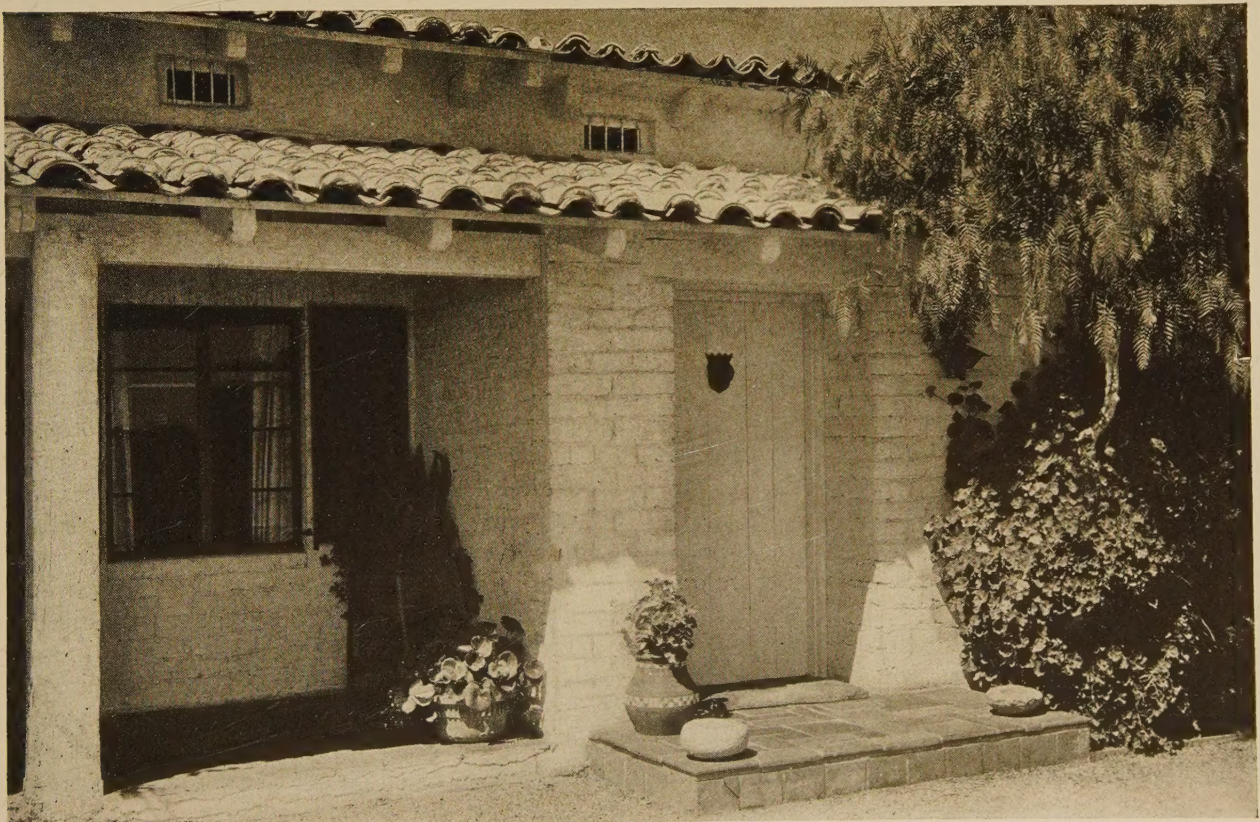
## Building with Blocks

*By R. W. Sexton*

**E**VEN the most radically minded architects will admit that a logical architectural design should reflect certain traditions which have long been associated with the history of the locality in which the building is to be located. Originality in architectural design is logically attained by giving old forms a new interpretation, by taking advantage of the opportunities which modern structural materials afford, rather than by attempting to develop new forms which bear no suggestion of the influence of the old styles and periods. And it is also very evident that modern structural materials and new methods

of construction frequently afford the architect his greatest opportunity to give a new interpretation to age-old ideas.

In a recent tour of the principal cities of Southern California, I was particularly interested in noticing the number of buildings of various types the walls of which were constructed of what is known on the Pacific Coast as "stone tile." The name of the product is somewhat misleading, as it is neither stone nor tile. It might be called concrete brick, for it is cast of concrete and has somewhat the form of a brick in size and in shape, yet it is hollow. I had naturally seen houses before built of con-



*House of Arthur Rosson, Santa Monica, Calif. John Byers, architect*





*The stone-tile wall, painted, is slightly larger in the scale of its units than painted brickwork, and has more sparkle in the surface. The Knapp house, Palm Springs, Calif. Allison & Allison, architects*

crete blocks, as we designate the material in the East, but I had never felt the same interest in their structure as I did in California. When I first saw one of these houses I was interested in it because of the quality of the wall surface—its pleasing texture and its color—and because its visible structure gave to the design of the building a character which was so honest and sincere.



But, as I saw more of California, as I had an opportunity to study the architecture of certain of the old buildings, still standing, that recall the days of the Missions, when the territory was inhabited by Indians, I realized that the interest of present-day California architects in constructing the walls of modern houses of stone tile was due in no small measure to the fact that this thoroughly modern structural product afforded them an unusual opportunity

to impart to their designs a quality which immediately recalled the old adobe houses of the early California settlers. Here, I recognized, was a striking example of reflecting traditions of the past in the architecture of to-day by giving a new interpretation to old ideas through the use of modern materials.

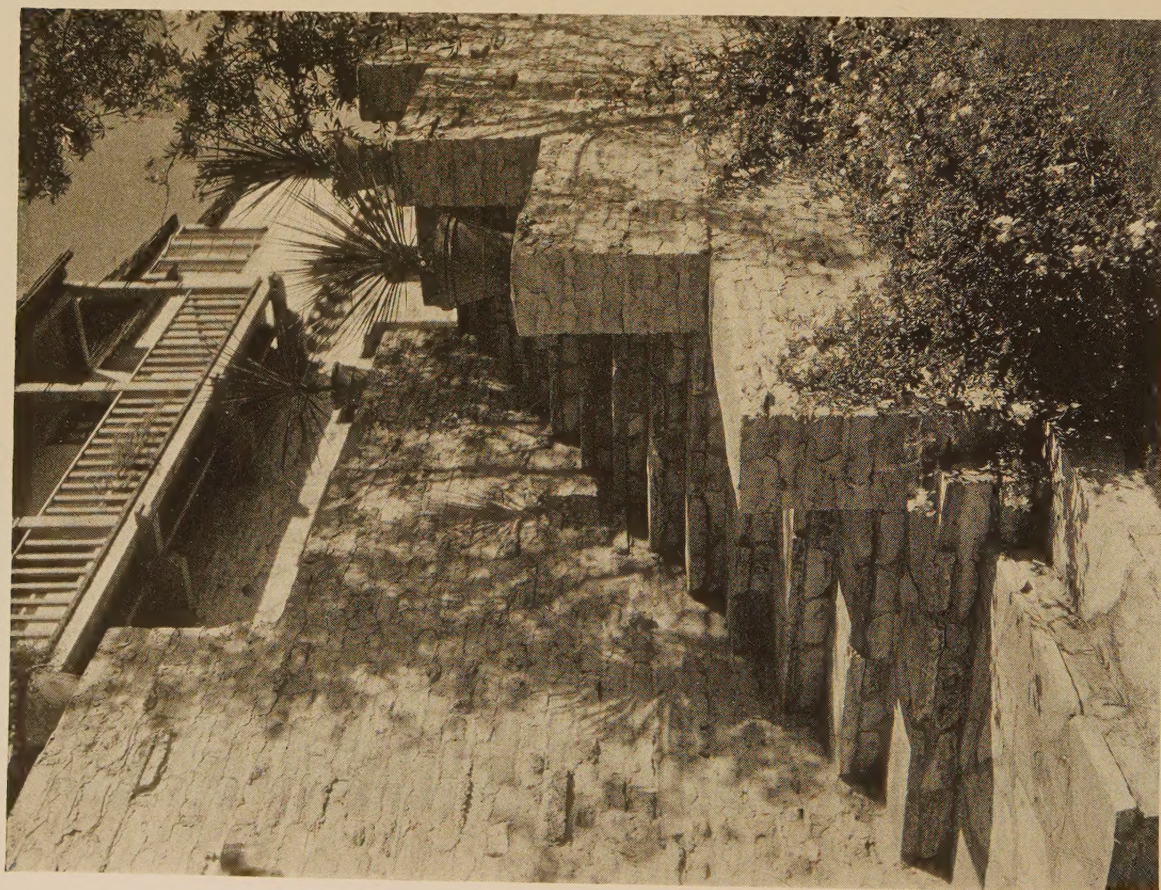
For, while the concrete block may recall the adobe brick, it is in no sense of the word an imitation of it. It is different in texture, color, and size. John Byers, architect, of Santa Monica, who has been particularly successful in designing houses with stone tile walls, said: "Stone tile has all the virtues of adobe and none of its faults." Mr. Byers, like many other architects on the Coast, often leaves the material exposed on both the exterior and interior wall. Should the owner prefer, however, a coat of stucco may be readily applied, in which case there is no need for exaggerating the texture of the stucco surface, for sufficient roughness may be obtained by simply covering the blocks, allowing the unevenness of the structural wall



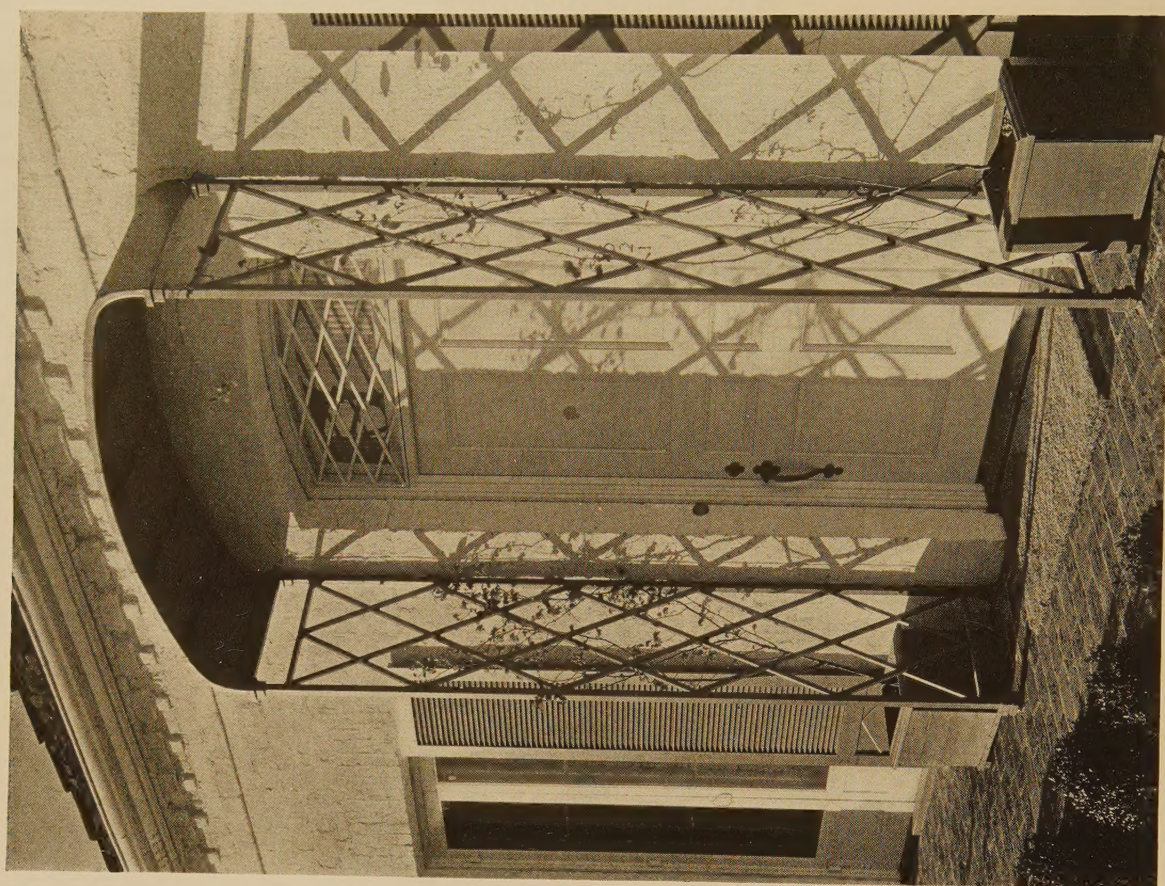


*In the Deep Well Guest Ranch, Palm Springs, Calif., Paul Williams, architect, has painted the blocks inside and out*



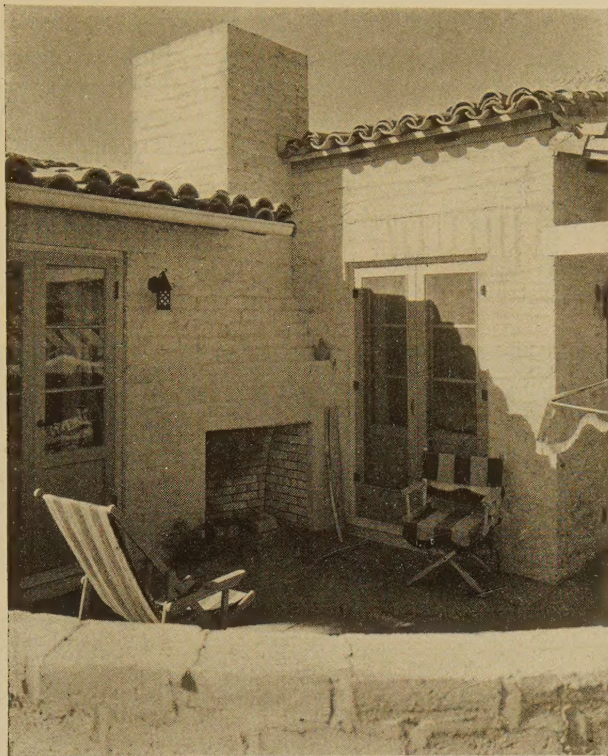


*In the Arthur Brent House, Bel Air, Calif., Gordon Kaufmann, architect, has achieved a rougher texture by uneven laying and the use of more mortar*



*There are interesting possibilities in slight variations of projection with small units, such as Roland Coate has employed in this model house in Los Angeles*





*Outside fireplace of the Carver house, Palm Springs, Calif. H. Roy Kelly, architect*



*Detail of texture on the Campbell house, Beverly Hills, Calif. James N. Conway, architect*



*Another of the frequent examples where the block wall is merely painted inside instead of being furred and plastered. In a mild climate a single thick-*

*ness of wall serves very well; under more trying climatic conditions a double wall is sometimes used with a two-inch airspace between*



to produce a variety in stucco surface. Most architects, I find, however, prefer to leave the material exposed. They like the visible construction and they like the suggestion of adobe which the wall implies.

In a climate such as that peculiar to Southern California, where the temperature varies only slightly throughout the entire year and where rain seldom falls, architects do not have

Mr. Byers called my attention to the fact that a house constructed in California of stone tile costs only slightly more than if it were built of frame construction covered with stucco. He also pointed out to me how the walls may be reinforced, if desired, by inserting a rod through the hollow chambers of the blocks and pouring concrete around it. For when the blocks are laid one above another, breaking joints, the left



*Another example of the rougher texture occasionally sought. Lintels are sometimes flat arches but more often are reinforced with rods, grouted and allowed to set vertically before being built into the wall.  
Davidson house, Palm Springs, Calif. Alfred E. Heideman, designer*

to give as much thought to the elimination of dampness, moisture, and hot and cold air as they do in the East. So that concrete blocks, with their hollow chambers, afford perfect insulation for California houses. They tend to keep the house cool in summer by keeping out the heat of the midday sun, and also allow a comfortable temperature in winter when occasional strong winds from the Pacific blow chilly blasts over the neighboring Coast towns.

chamber of one will fall directly over the right chamber of the block immediately above and below it. The blocks are manufactured in various sizes, to suit various wall thicknesses, and blocks are also made with sections to conform to the contours of such standard details as door and window frames. A particularly tight job may be obtained by caulking in steel frames with mortar, making them both dust-proof and wind-proof.



# The Architecture of Business Streets

WITH PARTICULAR REFERENCE TO PHILADELPHIA'S PRESENT OPPORTUNITY

TO even the least observant, nothing could be more patent than the daily traffic congestion in the central business portions of our large cities. And this evil is rapidly increasing despite the best efforts of the authorities to find an adequate remedy. At the present rate of increase, it is quite clear that it will not be long before the difficulties of circulation completely nullify the ultimate purpose for which the traffic exists. Centrality of position will no longer be an asset when accessibility has been cut off. What good will it do banks, insurance companies, great business houses, department-stores, shops, hotels, theatres, and the like if their clients, patrons or customers cannot reach them without making almost superhuman efforts?

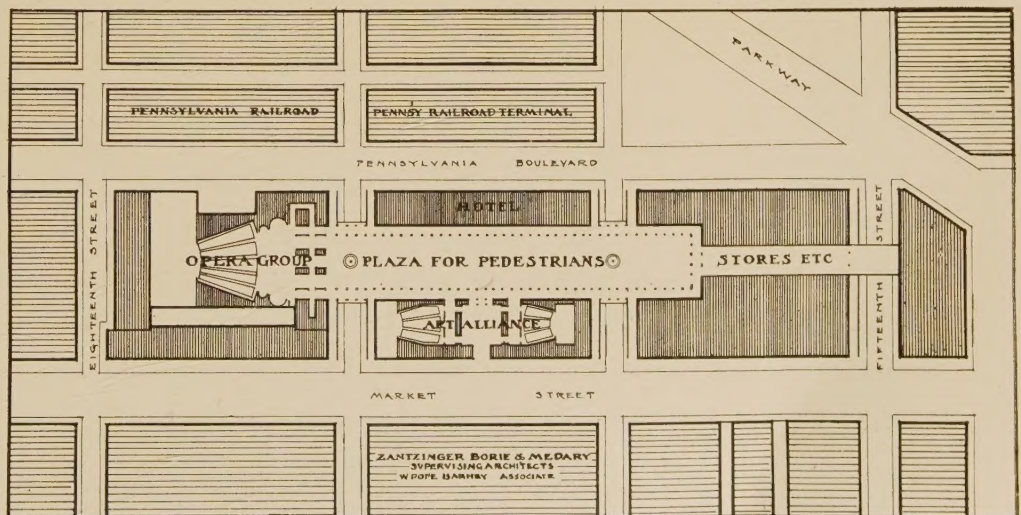
At the same time, centrality of position is absolutely indispensable for the efficient conduct of many business and social activities, unless our whole scheme of urban existence is to be radically changed and a state of disorganization brought about that is certainly not desirable and scarcely thinkable. The demand for centrality has had its response in the skyscraper, and the skyscraper has contributed as much as, if not more than, any one other agency to traffic congestion. The other chief factor of congestion is the automobile. Yet it would be absurd to suggest eliminating either automobiles or tall buildings from city streets. The fact of the matter is that most of our business streets became such before the automobile came into its own. Long ere that event, likewise, the plan

of city business districts had been determined. It is idle to talk of any extensive programme of re-planning the central business districts of our cities; it is not idle to talk of accommodating the architecture of our business streets to new conditions in a way that will obviate traffic congestion and preserve the accessibility of central positions. Motor cars are mobile, transient factors and cannot be directly dealt with further than by assuring free circulation and requisite parking space; architecture, being a static, tangible factor, lends itself kindly to the embodiment of new provisions dictated by modern demands. Since we can put our finger upon architecture as the one fixed and exactly calculable quantity, it is to architecture we must address ourselves for a solution of the difficulties confronting us.

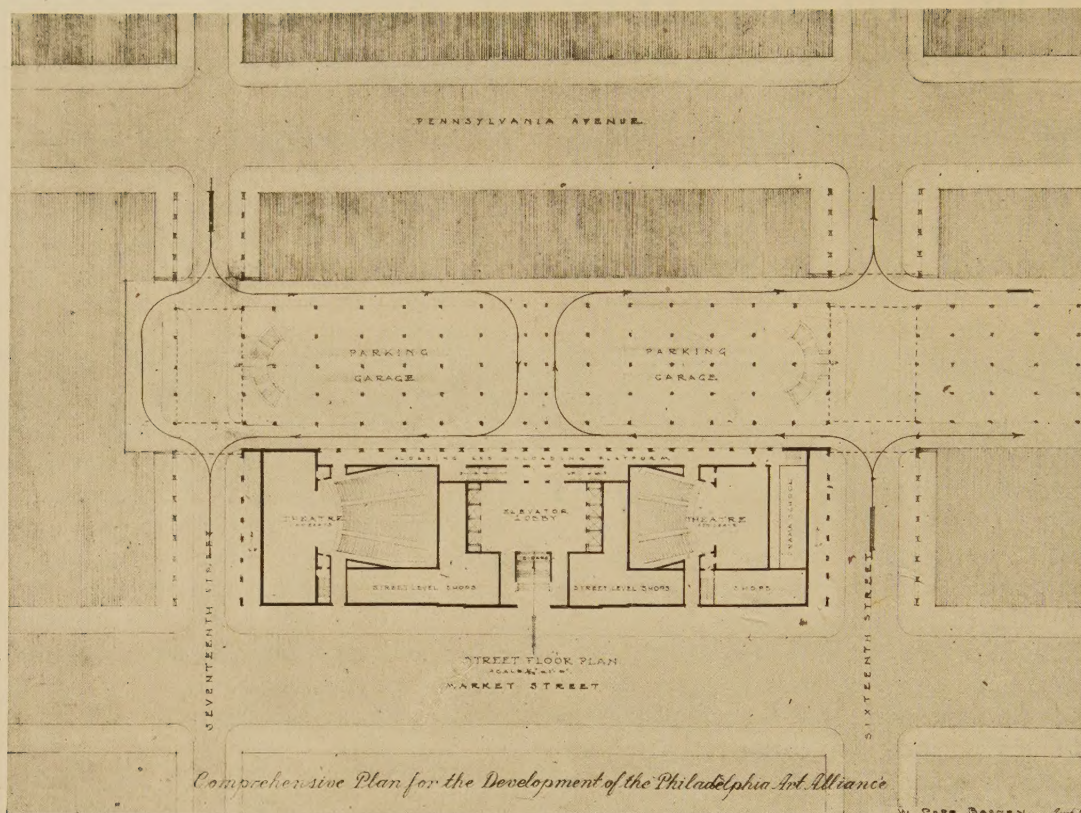
In a recent address to the Civic Association of Philadelphia upon "The Architecture of Business Streets," Mr. W. Pope Barney made some pertinent and highly suggestive observations and pointed his remarks on remedial measures by the concrete possibilities presented for the development of an adequate Civic Centre Scheme on the central site to be vacated by the removal of the Pennsylvania Railroad's Broad Street Station upon the completion of the new station in West Philadelphia.

After calling attention to the fact that "the value of street frontages as sites of maximum accessibility will wane" as it grows indisputably evident that "accessibility is theoretical only," he points out that "the free flow of

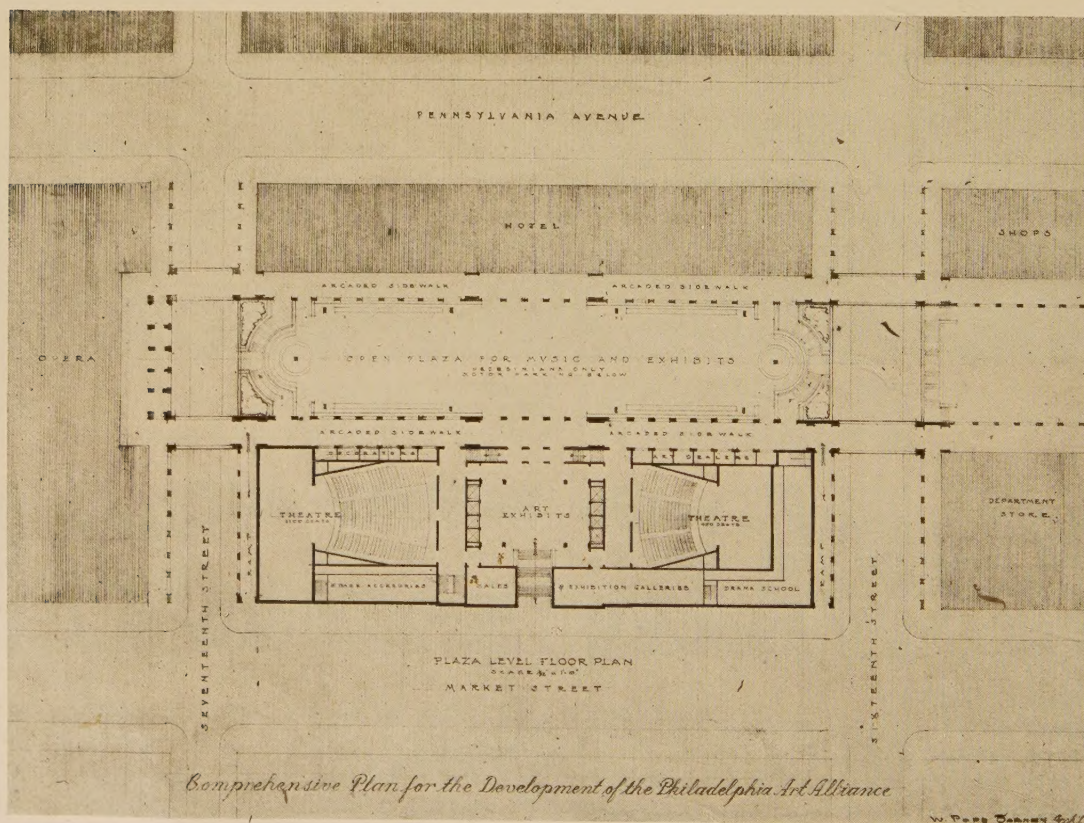
*Three blocks, between Fifteenth and Eighteenth Streets, and bounded by Market Street and Pennsylvania Boulevard, to be given up through the removal of Broad Street Station, give Philadelphia an unparalleled opportunity for a new kind of civic centre*







*Details of the central block of the three, with the motor-cars parked below an open plaza.*  
*W. Pope Barney, architect; Zantzinger, Borie & Medary, associate architects*





traffic and its correlative parking are of the most vital importance" if "those activities which should be at the centre" are to be enabled "more profitably to remain there than go elsewhere." So vital are circulation and parking facilities, he continues, "that in my estimation they should become the determining factor in the architecture of our city streets."

Mr. Barney quotes Le Corbusier's dictum that "the great city is a recent event with devastating consequences, the menace of tomorrow, for the forms of our streets are not adapted to modern traffic." He likewise cites Major Curran, apropos New York's plight: "We have so many skyscrapers, so many motor vehicles, and so many subways that we can hardly move about at all. We are caught in our own coils." Then he goes on to say:

"Suppose for a moment we face resolutely this appalling condition. What is to be done? There are many activities which cannot be decentralized. They are the hub of the wheel which cannot be moved without dislocation of an infinite number of spokes which radiate from it." Railway stations, the great banks, office buildings, exclusive shops, recreational activities such as the opera and theatres, museums, libraries, lecture and exhibition halls, and certain educational centres and hospitals "must have adequate provision made for their easy accessibility."

"We can re-route through traffic so as to relieve central congestion, but still the traffic whose destination is the centre city is so dense as to threaten suffocation of our business life, and suffocate it it will, if we complacently allow it to do so, by a continuation of our haphazard, illogical, and totally stupid placing of our great buildings, so that streets that were laid out by the limited vision of colonial days cannot now be widened to meet twentieth-century conditions."

"Could anything be more unreasonable than the placing of a skyscraper on each of the four corners of a city block, bounded by narrow streets, thus fixing for years to come the inadequate width of the streets with which our older cities are cursed, and leaving the centre of the block for an heterogeneous collection of minor, unrelated buildings and narrow light-courts with a silhouette of water tanks, pent houses, and chimney-stacks of a most ignoble description? It is by this unrelated planning and building that our problem is perpetuated, each year becoming worse."

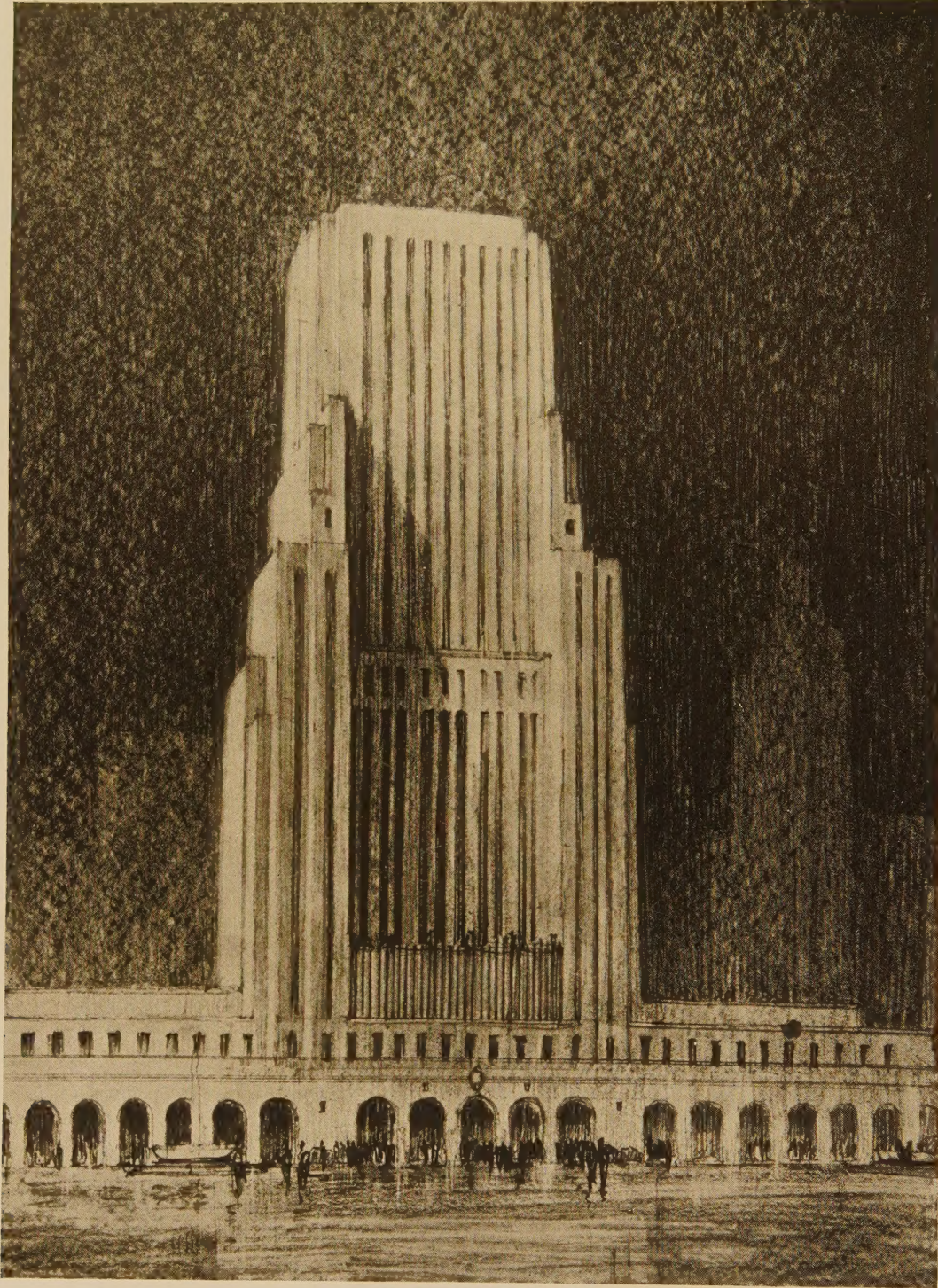
"Let us for a moment consider the architecture of our city streets as something more fundamental than the present vogue for black, synthetic marble and silver paint, more conducive to business growth than a new sign in scarlet light or a new interior of matched Russian maple inlaid with Indian ebony, foreign materials whose very presence is ironical since they bespeak a freedom of communication which the streets before our doors belie."

"Suppose this same city block should be brought under a comprehensive, intelligent scheme, and that the centre of the block (which with haphazard planning was so ignobly developed) be used as the site for a super-skyscraper combining all of the floor area which has been housed in the four corner locations. Then suppose that at the base of this great skyscraper sufficient space is left for doubling the width of the street, and also for a line of low buildings whose shop fronts, facing the new sidewalks, close to the eye line, are their commercial asset. By this scheme, which is all quite possible, our area for air, light, and traffic, both vehicular and pedestrian, would be immeasurably increased. Our central heating-plant would become infinitely more economical, our central elevators more convenient, our common utilities for banking, dining, recreation, and even parking more easily accessible. Our light-courts would all have been merged into a great space around the building, and the curse which our English cousins feel inseparable from the skyscraper, namely the congestion at its base, and the overpowering nearness of its mass, removed."

"Not only would our streets have been widened but actually the total volume of traffic would be lessened, as much of the intercommunication would be within the great building itself."

"There has been under study for the past year in Philadelphia a comprehensive development of three adjoining city blocks close to the heart of the city, which promises to achieve even greater advantages than any which could be envisioned in the development of a single block. With a property three blocks long it would be possible to solve the problem of the shopping area, namely the bringing of its patrons to its doors and providing parking facilities for the cars in which they come; at the same time it could constitute a group so comprehensive as to contain a sufficient number of shops, great stores, offices, banks, places





*The central dominating mass of the three-block scheme. W. Pope Barney, architect; Zantzinger, Borie & Medary, associate architects*

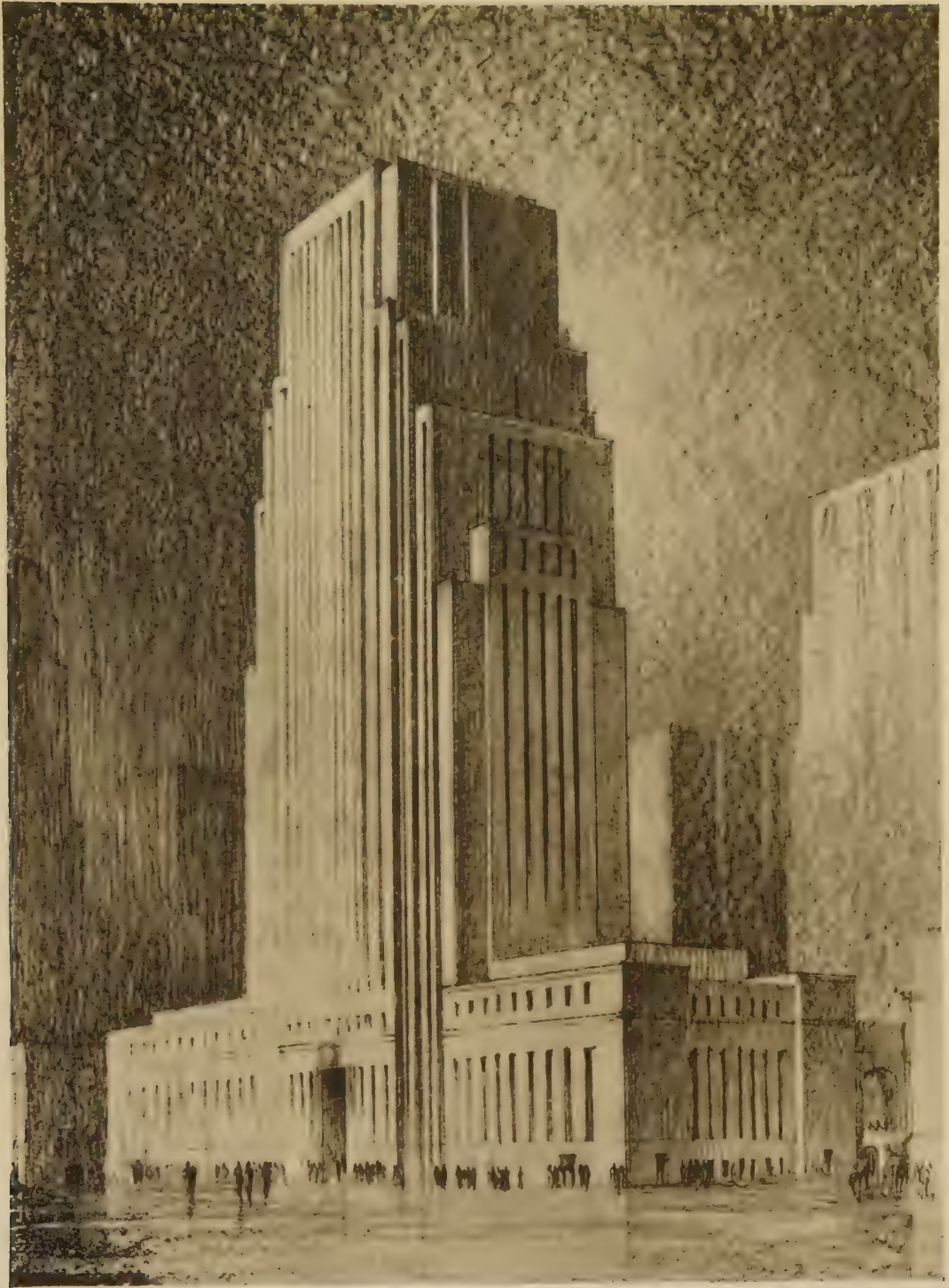
of amusement and refreshment that would make it a city unto itself.

"The development of such great tracts of property makes possible the creation of separate levels for moving vehicles, parked vehicles, and pedestrian traffic. In the Philadelphia scheme under study a great plaza is proposed on a level fifteen feet above the street, with double tiers of parking below it. This plaza

would be surrounded by buildings and would span the traversing streets by bridges, so that the streams of traffic would correspond to the canals of Venice, over which bridges connect the piazzas. Thus would be obtained a shopping area of sufficient size to be truly comprehensive, accessible from the street level, with the ordinary shop windows along the normal sidewalk, and with an upper level, the pe-



*Daylight perspective view of the central tower. W. Pope Barney, architect; Zant-zinger, Borie & Medary, associate architects*

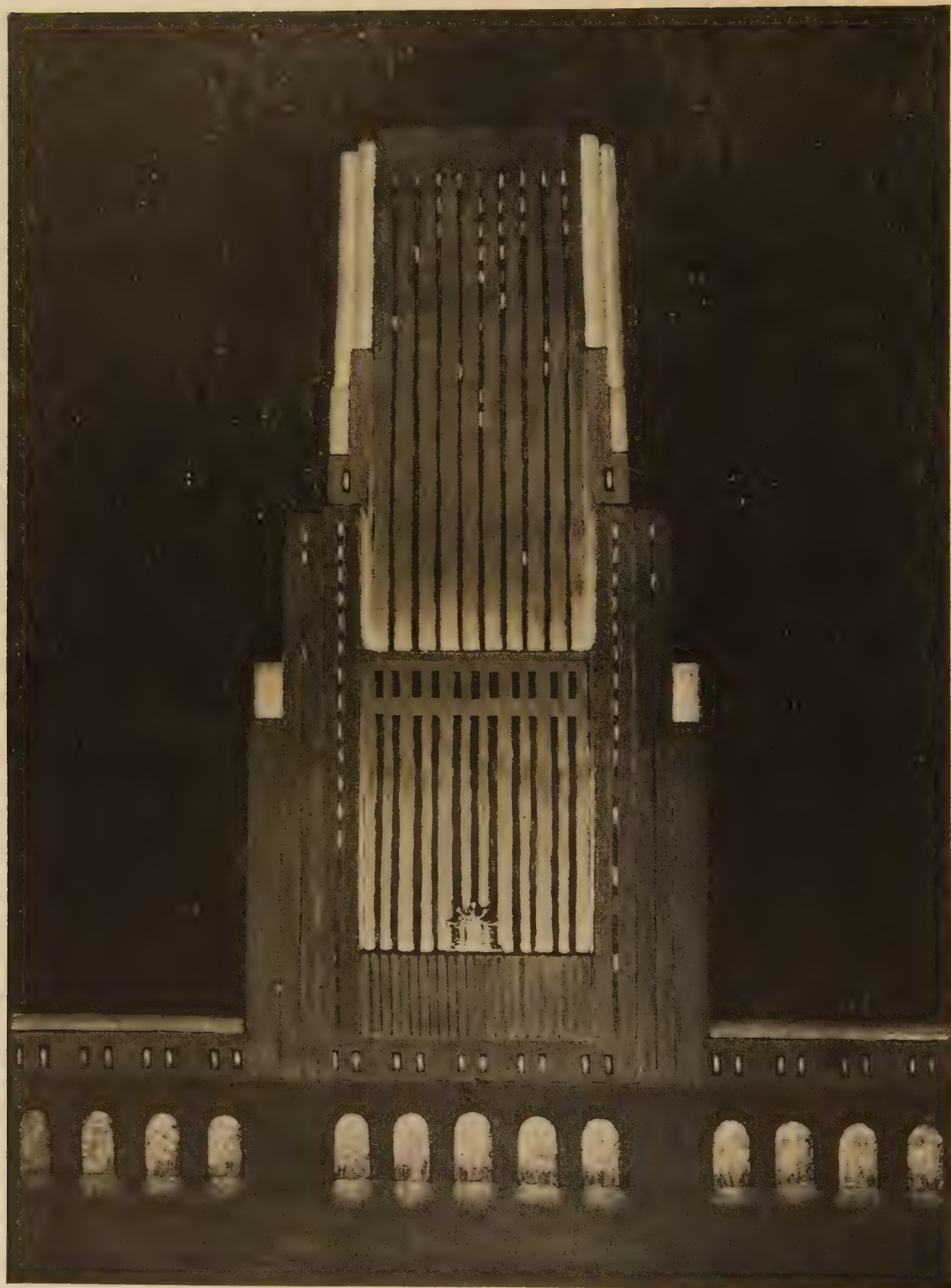


destrians' plaza, faced with a second array of shops, where the circulation would be under sheltering arcades and could be accomplished with neither noise, inconvenience nor danger. This plaza would be at a point of maximum accessibility, but would be raised above the nerve-racking whirl of traffic and, by gathering what would ordinarily have been an heterogeneous collection of small light-courts into

one noble open space, a liability in commercial planning would be turned into an inspiring asset, capable of very dignified and artistic treatment, and would become a new point of departure in the architecture of business districts."

The accompanying renderings and plans of the specific scheme referred to by Mr. Barney sufficiently elucidate its chief characteristics.





*Night view of the central tower with its great outdoor organ for the enjoyment of audiences in the plaza. W. Pope Barney, architect; Zantzinger, Borie & Medary, associate architects*





## Motor Fuel Stations in Variety

*On this page and the next are shown fuel and service stations in England, Denmark, and the United States—all of them evidences of our attempts to find a proper architectural form for this twentieth-century need. Above and below, the station near Coombe Bridge, Kingston By-Pass, London*







*A service station at San Juan Capistrano, Calif. L. E. Wilson, architect*

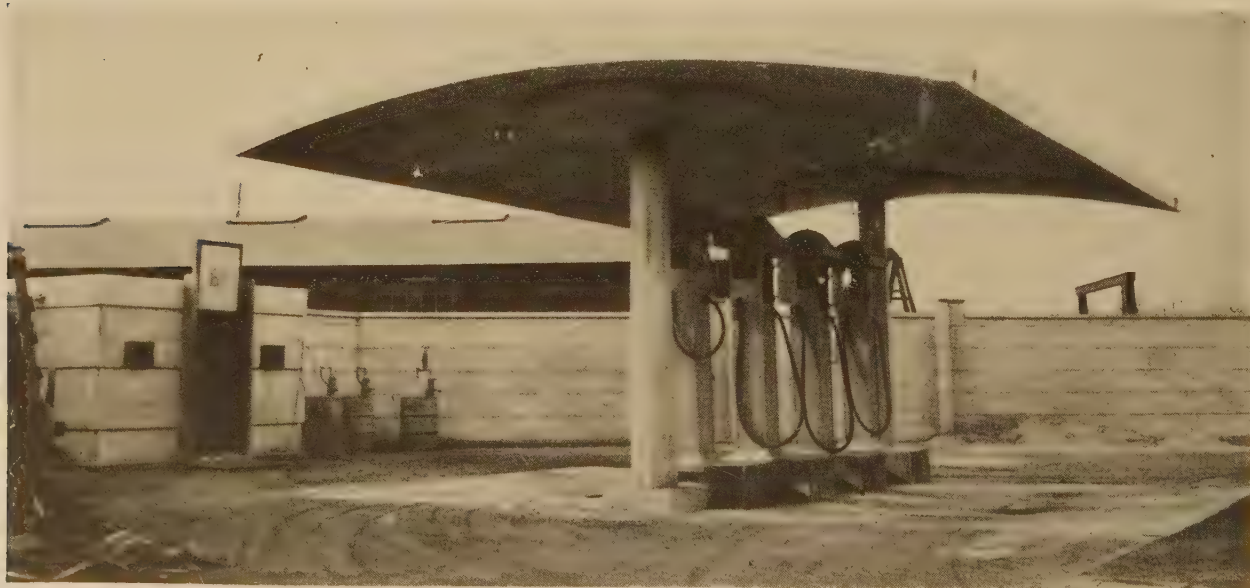


*In the city of Los Angeles, Calif. Roland E. Coate, architect*



*In Boston, Mass., based on Old-World unrelated precedent*

*A strictly functional scheme in Denmark. C. U. Lüttichau, architect*







A SYNAGOGUE IN AMSTERDAM, HOLLAND

HARRY ELTE, ARCHITECT

*The end containing the Ark is worked out in black glass, black marble, and brilliant mosaic*





A SYNAGOGUE, AMSTERDAM, HOLLAND

HARRY ELTE, ARCHITECT



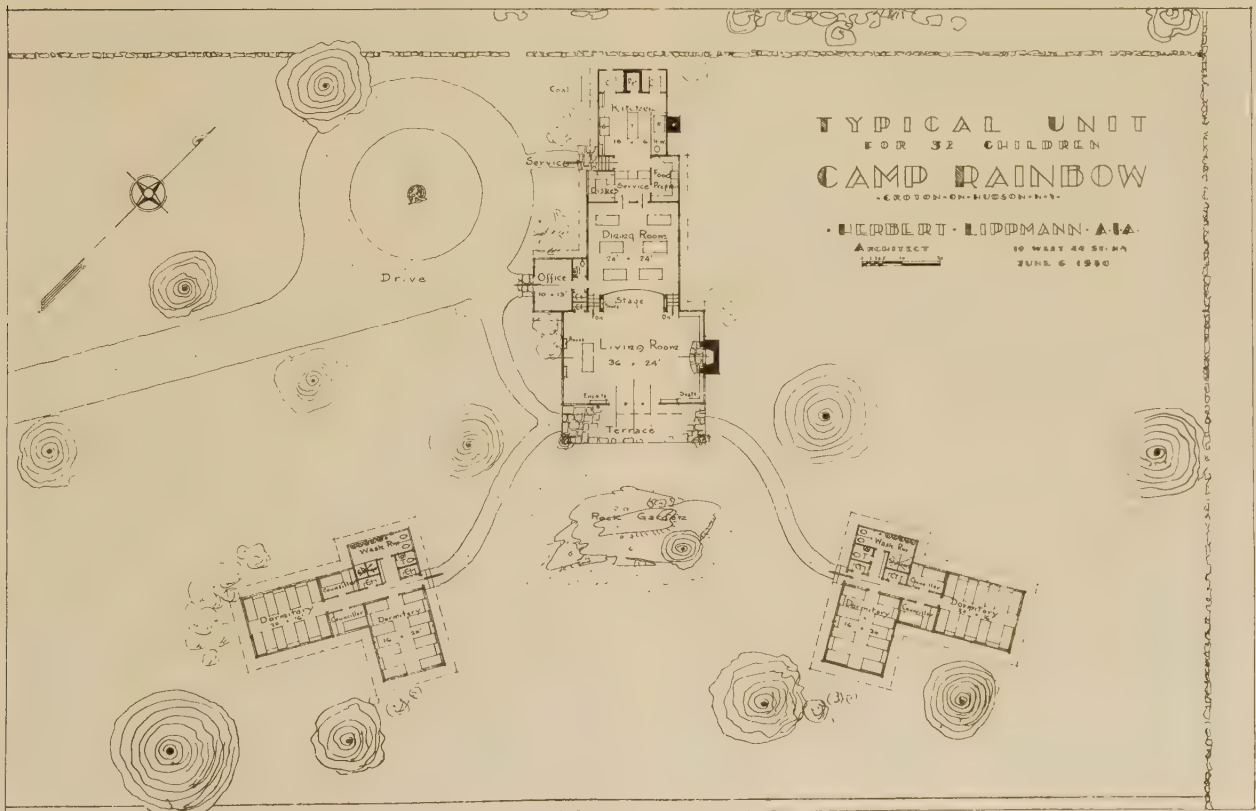




Dining-room, Hudson Guild Farm, Andover, N. J.  
Clarence S. Stein, architect

## Summer Camp Buildings

*The scheme of separating dormitories from dining-room and commons room has become fairly general*







*Dining-hall of Hudson Guild Farm, Andover, N. J. Clarence S. Stein, architect. A prime requisite in these camp buildings is the use of local materials and familiar methods of construction*

*The illustration below shows a detail in a private house, typical of the rugged simplicity of camp building construction. Clarence S. Stein, architect*



*A detail of Rose Walter Cottage, Hudson Guild Farm. Stone was gathered near by, the timber cut from trees on the site. Clarence S. Stein, architect*





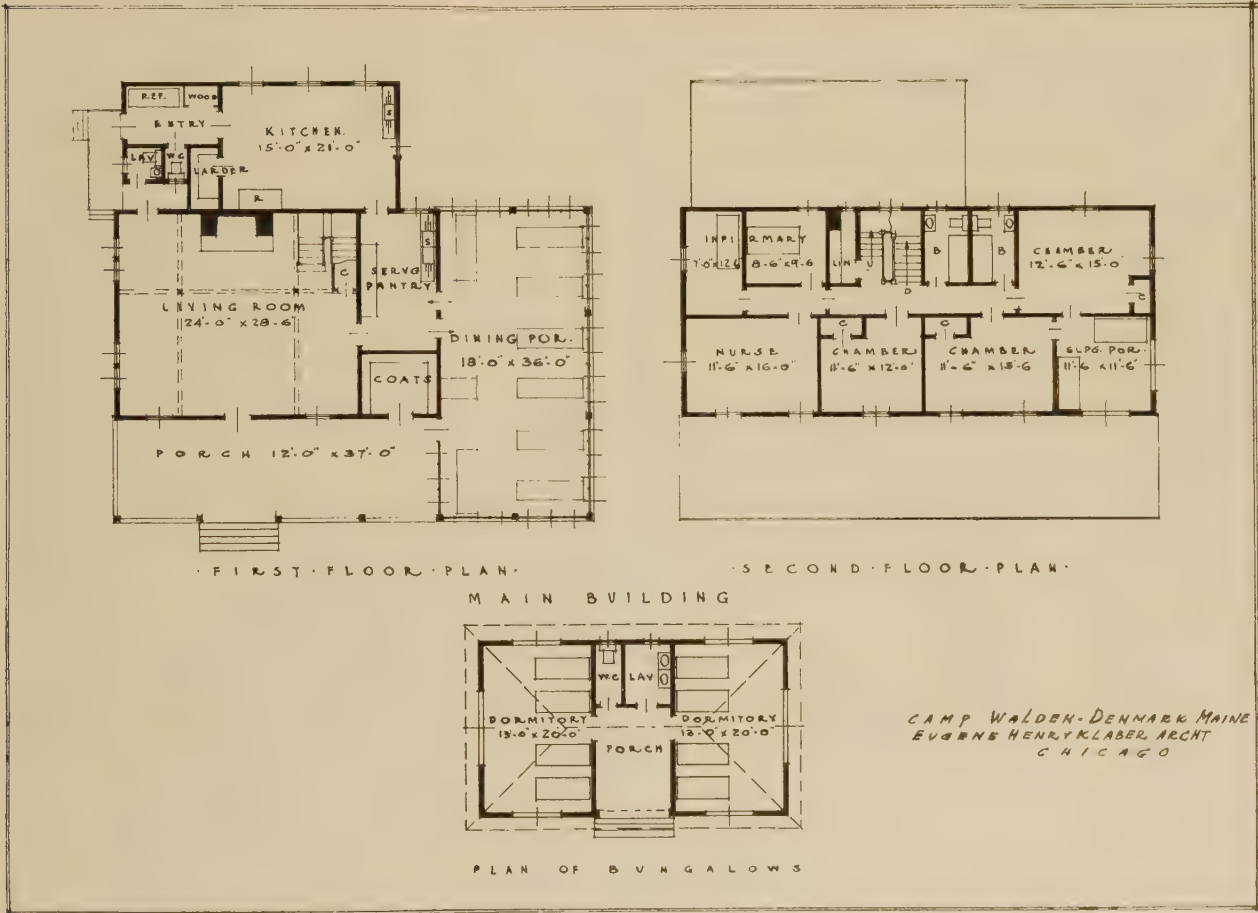


Eugene H. Klaber, architect of Camp Walden, Denmark, Me., says that it is "shack architecture," but the plans have been given some study

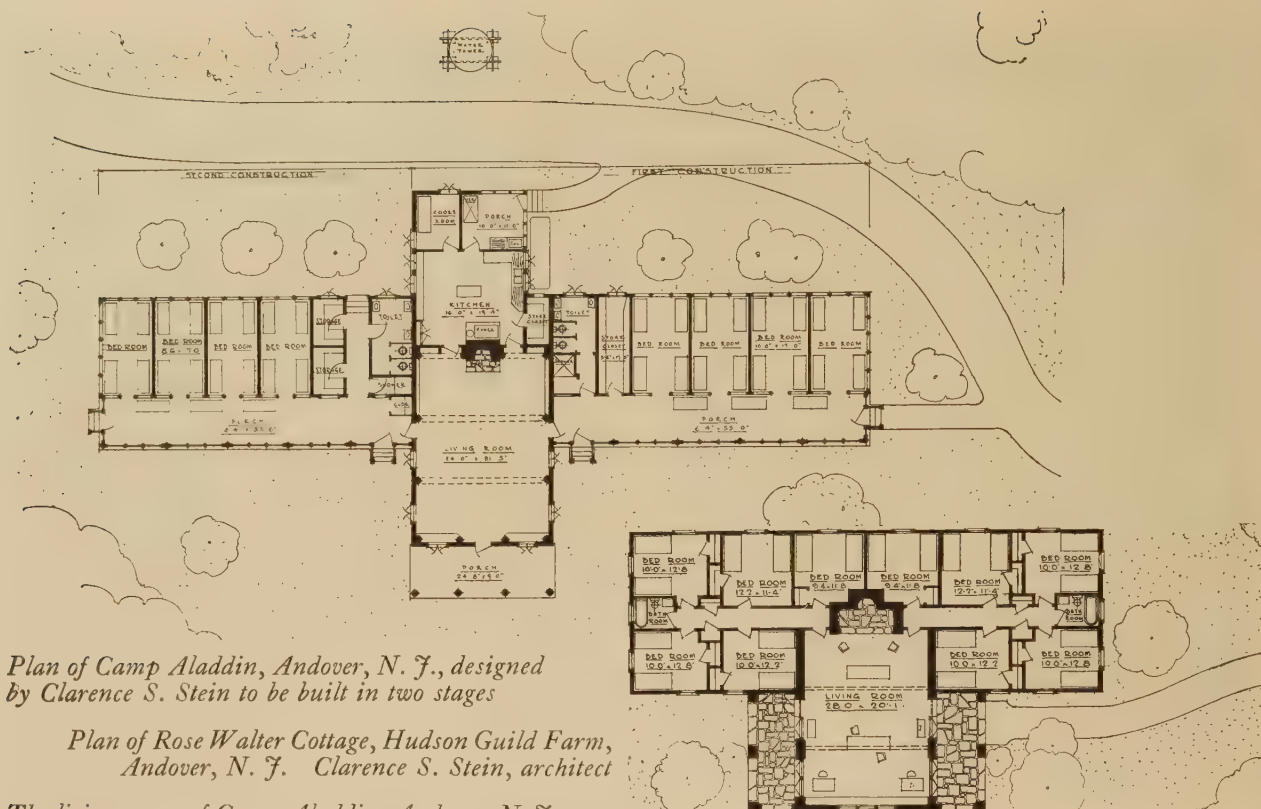


The Camp Walden scheme consists of a main building and eleven outlying bungalows, of which the photograph shows one

The main building serves as the owner's residence, the infirmary, dining-room, and general living-room







*Plan of Camp Aladdin, Andover, N. J., designed by Clarence S. Stein to be built in two stages*

*Plan of Rose Walter Cottage, Hudson Guild Farm, Andover, N. J. Clarence S. Stein, architect*

*The living-room of Camp Aladdin, Andover, N. J. The camp was established by college girls to afford summer recreational facilities for poor children*







*John Kirchmayer died November 30, 1930, at his home in East Cambridge, Mass. As long ago as 1870 he played the part of Joseph in the Passion Play at Oberammergau, his birthplace*

## John Kirchmayer, Master Craftsman

*By Ralph Adams Cram*



THE death of John Kirchmayer brings grief and a sense of personal as well as artistic loss. It must have been full thirty-five years ago that he first dawned on my office, a big, raw-boned, heavily bearded Bavarian, newly come from Oberammergau. At that time we were searching desperately for artist-craftsmen of every sort, for we realized that architecture, particularly the sort we were trying to do, was in sorry case without these same craftsmen of every kind. We needed not only woodworkers and carvers but makers of stained glass, goldsmiths, forgers of iron, as well as painters and sculptors. It was a long time since such had been had for the asking, or even for the laborious searching out. As I remember it, Kirchmayer was the first godsend, though Otto Heinigke, in stained glass, followed close, with more to come. Then Yellin and Krasser in ironwork, Stone, Germer, and Wooley in the precious metals, and others, here and there, in different arts.

As the first and, in some respects, the most

notable in our coveted sequence, Kirchmayer always had a peculiar place in our hearts, as in the hearts of so many others who came to know him and work with him. Under the dynamic influence of H. H. Richardson, John Evans had begun the restoration of fine carving, though chiefly in stone. Kirchmayer was the first we found who could do in wood what we felt we must have, and it is not too much to say that he almost recreated the old art-craft of wood-carving in America. He was both craftsman and artist, of the old and only sound type where the two qualities are inseparably combined. He was no copyist and no dumb mechanic. If he liked what you did he said so, and the reverse; He knew his craft and treated it with reverence and fidelity. Impatient of criticism, particularly if it was unintelligent—which was more often than not the case—he grasped an idea instantaneously and, if left to work it out on his own lines, he was happy and almost invariably successful. He had that rare thing, creative imagination, and this showed itself in all he



did, no matter how hard one tried to beat it down or turn it into more conventional channels. All his statues were original, and much of his carving.

Ultimately he began working out his own individual style, which he called "American Gothic." There was much that was mediæval in it, but more that was modern and most of all that which was wholly Kirchmayer, a curious mingling of figure, drapery, and Gothic tracery. It was very architectonic and took its place intimately in canopied niches and fretted panels. He used stain of many kinds as a painter uses his colors, with paint and enamel on flesh and orphreys, and gold for haloes and decorations.

Nor was it all "Gothic" with Kirchmayer, not even of the "American" type. In his later years he discovered (perhaps he had always known) Grinling Gibbons, and this master's suave, clean line, vivid lights and shadows, and fecund invention fascinated him. Without copying he, in a sense, re-created his very individual

style and some of his best work was along this line. Also he loved the most delicate ivory carving, experimenting in it constantly. In fact, he was a sort of universal genius in the realm of wood and kindred materials, for his work in joinery was as scrupulous and enthusiastic as his carving.



Never was there a man more loyal and devoted to those who won his rather cautious confidence, and his generosity was proverbial. He worked steadily with my office for full thirty years, and he was always bringing gifts. I myself have a huge chest or coffer made after the Bavarian fashion, and most exquisitely, without a particle of iron or other metal. It is covered with very beautiful low-relief carving—St. Benedict and William of Wykeham, my own coat-of-arms delicately touched with its correct tinctures, and most original decorative ornament, and all designed by himself, carved by his own hand, and fabricated also. A "museum



*Reredos of Calvary Church, Pittsburgh, Pa.; Cram, Goodhue & Ferguson, architects—an example of Kirchmayer's earlier work*





*Reredos of The Lady Chapel, Calvary Church, Pittsburgh, Pa., carved by John Kirchmayer in collaboration with Cram, Goodhue & Ferguson, architects*





*Above, "Meeting Through the Mist"*

*At the far right, one of Kirchmayer's later carvings inspired by the work of Grinling Gibbons*

*Joseph, one of Kirchmayer's individual figures*



piece," if ever there was one. There is also a great statue of the Virgin, wrought out of one huge block of bog-oak and touched with gold leaf and ivory enamel—one of the first things he did, I think, in his "American Gothic" style.

Some years ago he seemed (I can't imagine why) to think he was growing old, and he withdrew from regular professional work. It was during this time that he began to conceive and work out those strange, apocalyptic visions of Paradise and curious unconventional compositions, always religious, that some day will be considered as particular treasures in museums fortunate enough to own them. They are astonishing conceptions, intricate and sometimes involved, with something Dantesque about them, and over all a sort of recovered memory of his native Bavarian highlands. Now and then he would do a statue or panel for some one





of his friends, but always as a favor, working in his own kitchen and quite indifferent as to the amount of payment he received. He said he was too old to submit to the dictation of ignorant or stubborn clients and he was going to use his art for his own satisfaction. I hope he got this, and in good measure.

A striking and unique figure, both as craftsman and as personality. His roots struck back deep into the fifteenth century and his art was utterly unconscious, unaffected, and instinctive. A type of what was, a few centuries ago, the natural thing among craftsmen of every kind, but now, alas, almost unknown though, *laus Deo*, coming to life once more, whether to endure or not, who shall say?

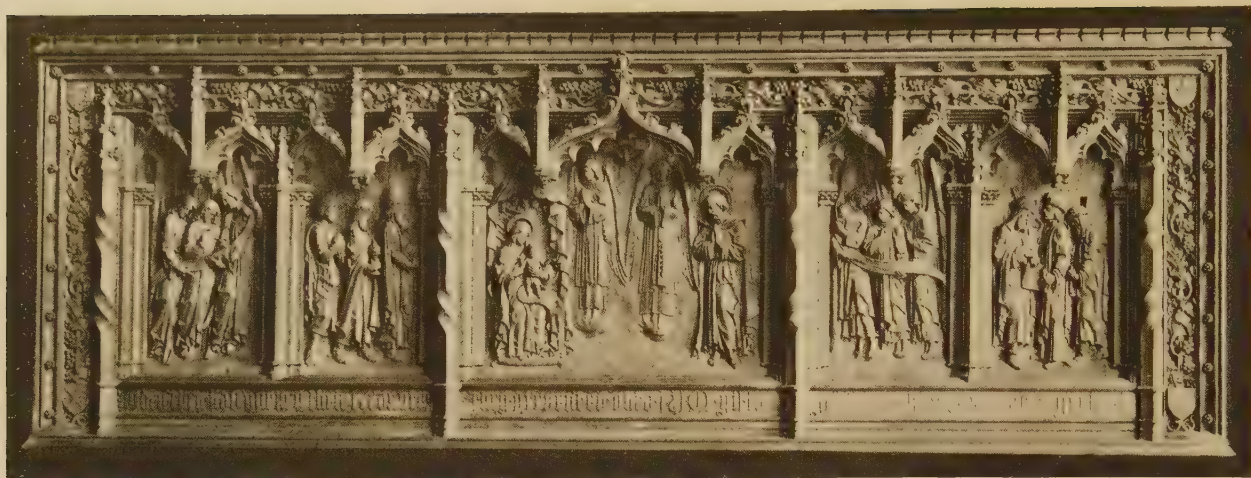
A great man, John Kirchmayer, In this confused and doubtful generation it may be we "shall not look upon his like again."

*Above, "The Holy Nativity"*

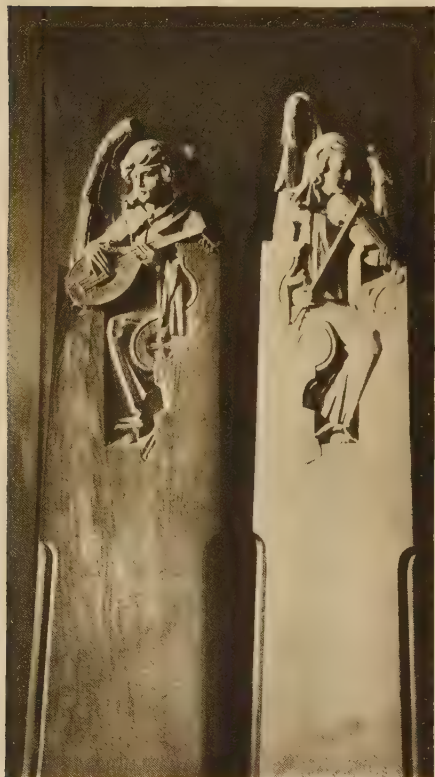
*At the extreme left, a companion panel to that shown on the opposite page*

*Madonna and Child—a companion figure to that of Joseph*





*Reredos for high altar of All Saints' Church, Peterboro, N. H. This is the last work executed for Cram & Ferguson by John Kirchmayer*



*Choir stall ends for Calvary Church, Pittsburgh, Pa., carved by John Kirchmayer in collaboration with Cram, Goodhue & Ferguson, architects*



*Madonna and Child, an example of what John Kirchmayer*



*Choir stall ends for Calvary Church, Pittsburgh, Pa., carved by John Kirchmayer in collaboration with Cram, Goodhue & Ferguson, architects*

*liked to call his "American Gothic" style of wood-carving.*



NUMBER IX  
IN A SERIES  
OF  
WORKING DRAWINGS

*By Jack G. Stewart*

*This series, in which one drawing will appear each month, is designed to cover the smaller practical problems that confront the architect in his day's work. The subjects chosen are those which, while not uncommon, call for some experience and knowledge of approved solutions. Next month the subject is Stair Construction.*

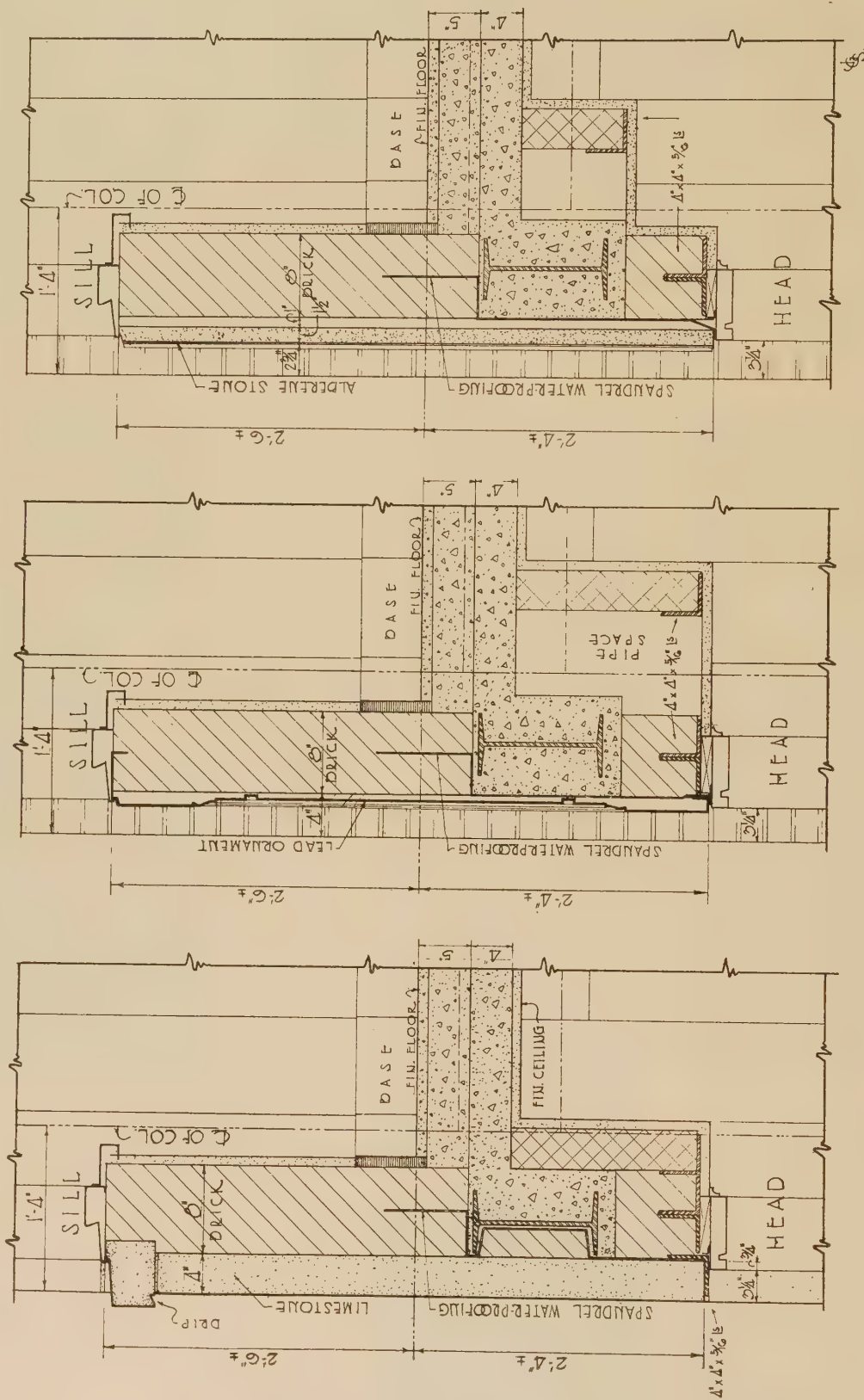


[ARCHITECTURE]  
CHARLES SCRIBNER'S SONS

PREVIOUS SUBJECTS IN THIS SERIES

- I. FLAGPOLE HOLDER ON AN EXTERIOR WALL
- II. RADIATOR ENCLOSURES
- III. CIGAR SALES COUNTER
- IV. WOODWORK IN A LIBRARY
- V. BUILT-IN KITCHEN CUPBOARD
- VI. VARIOUS TRIMS AND MOULDINGS
- VII. TELEPHONE BOOTH
- VIII. MEN'S TOILET





SCALE · DETAIL · OF · WINDOW · SPANDRELS ·

· SCALE · 3/4" = 1'-0" ·



# Some Pitfalls in Supervision

By *W. F. Bartels*

## VII. WOOD FRAMING

**W**ITH timber the superintendent must ever be on the alert to reject material which is not of the specified quality, condition, and size. He must be able to tell immediately if it is being properly used. It is sheer waste to have a large girder and then diminish its effective strength by the way it is supported. Fig. 1 shows how girders are often spliced on top of columns or on a bearing wall. The method is obviously wrong if the full potential strength is to be utilized and developed, yet many builders will maintain that it has its original thickness at the centre where most needed. It seems almost useless to tell them that a beam is no stronger than its weakest section, and that as they cut the ends these would break off before the middle was strained.

Similarly with the first-floor beams of a house, care should be taken to make sure they are not just notched over the sill or plate as in Fig. 2. Beams in no case should be "shimmed" up with wooden wedges. All shims should be of slate or steel, and they should be as wide as the beam they are to shim.

The superintendent should see that all beams that carry partitions above them are at least "doubled," *i. e.*, two in number. This increase will prevent sagging floors and doors which will not close. Adequate bridging should be placed between the beams. Where headers and tail beams are used they should be carried in stirrup irons, for failure to do so will result in the development of bad cracks. It seems in-

credible that some builders think nothing more is necessary than to toe-nail the headers. Such practice is of course extremely slipshod and dangerous. No wood should come in contact with the ground; certainly not any beams or girders. Yet how often an otherwise well-built house has the supports for porch or stairs resting on the ground! This should never be countenanced.

In brick buildings most city ordinances call for beams to be bevelled where they rest on a wall. This of course is so that, in case of fire, the beams would burn and fall out but would not topple the wall over. But care should be taken to see that they are not cut too far and have an adequate support on the wall (Fig. 3).

Nowadays in apartment-houses studding is seldom set any way but the narrow way, but in the partitions between different apartments it should never be set any way but the wide way. For proper sound-proofing one of several good sound-absorbing materials should be nailed between studs.

All studding should be well braced, bridging and other members being set and put between the studs. Where door or window openings occur the studding should be doubled. Truss over narrow openings and see that steel-reinforced lintel or some other rigid top member is provided for the wider openings.

If diagonal sheathing is not used, care should be taken to see that the corner posts are well braced to give firmness to the framing.

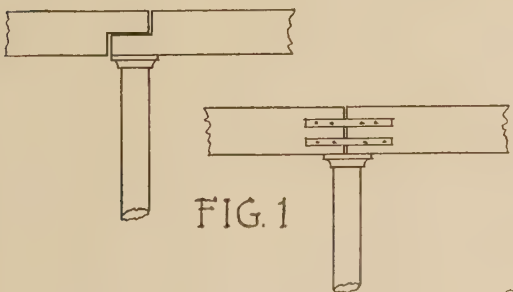


FIG. 1

FIG. 2

Fig. 1. The wrong and right ways of girder splicing

Fig. 2. Improper support of joists on sill

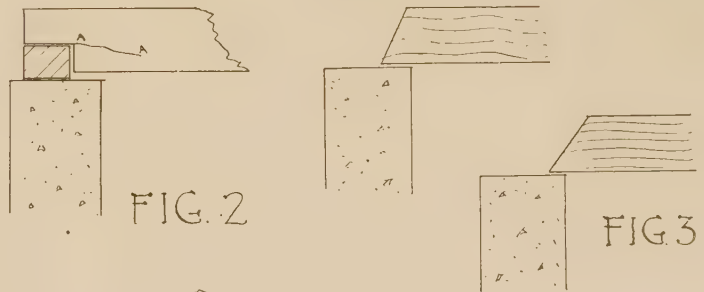


FIG. 3

FIG. 4

Fig. 3. The right and wrong ways of beveling joists

Fig. 4. Toe-nailing a joist is a makeshift—use stirrup irons



## ❖ INTERIOR WOODWORK ❖

TRIM should be trim. The architect spends time, effort, and study to attain this end. But it depends upon the superintendent not only to see that his design details are carried out, but also to insist that all preliminary and final workmanship not specifically mentioned by the architect be executed in a practical and first-class manner. Well-designed and well-fabricated trim, however, would come to naught were it not well installed, but this in turn is dependent chiefly upon proper grounds, and plumb window and door frames. It is this latter work which the superintendent often fails to scrutinize carefully, with serious results later.

First of all there must be good grounds. These are often poorly applied, if not entirely omitted. Probably half of our ordinary homes and apartments are without grounds. This is directly detrimental to both the trim work and plastering. As affecting the trim, the picture-moulds pull off too readily when there are no grounds present. The base boards become wobbly and, if topped by a neck moulding, the latter soon starts bulging out like an oversized collar on a small neckband. The lack of grounds also makes the plasterer uncertain as to a horizontal line, and if two men are working the same room their guesses will seldom agree, with the result that corners are not true and surfaces billow like the sails of a clipper ship. Grounds should be of such thickness that both they and the plaster will finish flush. They should be well nailed to studs and masonry walls. It is preferable that they have slightly bevelled sides so as to provide a key for the plaster. Care should be taken to see that they are perfectly level and plumb with each other even though in places they have to be cut out slightly at the studs. Later this will be a great assistance to the plasterer to use as a guide and it will well repay the builder by producing straight and true walls.

Window-frames in brick walls should be recessed laterally as far as possible in order to give the greatest amount of protection against wind and rain. A properly detailed and set window-frame will have a wind-break member. Window-frames should be well braced when first installed, because there is always the possibility of their being pressed in by the weight of the wall before the mortar is set. Then too, the pressure of wet mortar and the dampness tend

to warp the sides inwards. Afterward they should be well caulked with oakum where they meet the masonry of the jamb and sill, and be sealed with a caulking compound which will withstand the elements and retain its elasticity. It is quite useless to use a mixture consisting mostly of tar and expect it not to melt with the heat of the sun.

In frame dwellings the window-frames should have building paper carried well up to the openings and not stop short of them by a margin of a foot or more. The biggest air leakage will occur around all openings, and this should be anticipated. The frames should be perfectly true and square; the sash should not be hung before the plastering is completed, if this is possible. Of course, in the cold part of the year either the sash will have to be hung or the openings closed up to allow the lathers and plasterers to work in comfort. Not only is this a union rule but it is false economy to work lathers in a cold place because of the very noticeable slowing up of their work. And, of course, the harmful effect of wet or freezing weather upon plastering is obvious and need not be described.

The window trim should be inspected to see that it comes up to the specified requirements. The wood has been specified for certain features, such as freedom from resin, ability to stand knocks and bumps without denting noticeably, and therefore something "just as good" should not be installed. The work should be inspected to see that the mitred joints are dowelled as well as pinned and glued to prevent splitting apart upon the shrinkage of the work or any slight settling. It is well on good work to have the window stops screwed on with adjustable washers, so that if the sash shrink or swell the stops can be more readily changed than if nailed in place. The stools should be well blocked and firmly secured. It is far better to have them  $1\frac{1}{8}$  inches thick than thinner, as they often receive much abuse. The weather beats in on them, often the occupants sit on them or step on the edge of them in fastening curtains, and not infrequently if sills are of only  $\frac{3}{4}$ -inch stock many will be cracked before the mechanics leave the building. Any window through which material is taken should be especially protected by boards placed over the sill and stool.

*(Continued in the March issue)*

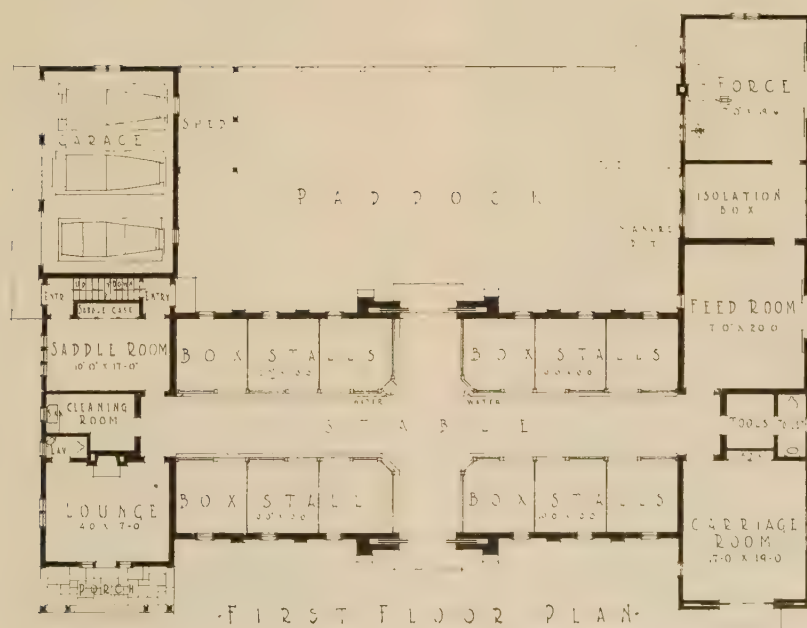




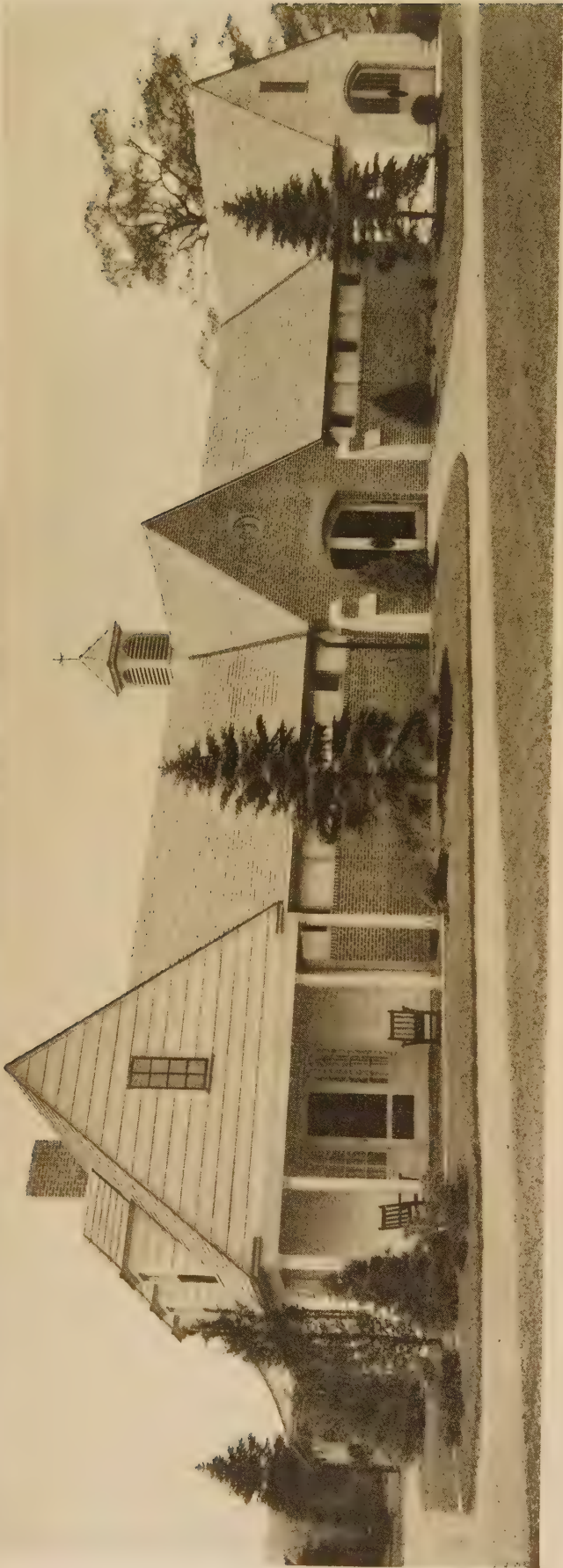
Photographs by Murray Studio

STABLE OF JUDGE WILLIAM C. HUNGERFORD,  
AVALON FARMS, KENSINGTON, CONN.

A. RAYMOND ELLIS, ARCHITECT







*The saddle room*

*There are twelve box stalls, three of which have dirt floors; the others, wood blocks. The passageway is floored with wood blocks with a border of brick along the gutter*








# Adaptability of Certain Ancient Methods to Modern Use

*By Ernest Flagg*

N a former article of this series (December, 1930) it was explained how the principle which governed in the design of Doric temples may be applied to the modern cottage. Great as is the contrast between such structures, it is by no means as great as that found in Greece itself, for the Greeks used the principle commonly in the liberal arts and for most articles of human handicraft—pots, vases, furniture, vehicles, vessels, etc. Vitruvius mentions the part usually taken as the module in designing ships, and even in the humblest of household implements its influence is often seen, for some of the kitchen utensils found at Pompeii are veritable works of art. When one knows how to obtain correct proportions he does not willingly accept discords. My wife insists upon them for her household linen and prides herself mightily on its beauty.

The very simplicity of this rule makes it hard for some to understand. They are so accustomed to think of art as something mysterious and abstruse that they have difficulty in divesting themselves of the habit.



Perhaps the best way to make the matter clear will be by concrete examples, but first a few words as to the choice of a module. The most obvious one is a quantity which will fit evenly into the bay and into the distance between the last bay and corner of building. In Greek Doric buildings normal width of bay was from axis to axis of triglyph pairs as stated, but in Corinthian and Ionic structures, where there were no triglyphs, it was from centre to centre of columns. Therefore in Doric buildings the distance from the last bay, either at sides or ends, to corner of building was half thickness of a triglyph, and in Corinthian and Ionic buildings, half diameter of a column.

We speak of normal dimensions because actual dimensions were generally less, being affected by inclination and batter. Inclination and batter, however, were not intended to change proportions but simply to correct that optical illusion which makes a façade of equal width appear wider at top than at bottom. Inclination and batter which affected dimensions above did not, of course, affect them below, and the measurements quoted in the first of the present articles show conclusively that height in the Parthenon peristyle was proportioned to breadth and depth at stylobate.



This was doubtless thought an improvement on the older method used in the temples of Zeus at Olympia, Diana Propylæa at Eleusis, and Theseus at Athens, where height was proportioned to breadth and depth at frieze and inclination was downward from frieze instead of upward from stylobate as in the Parthenon, but the result of the innovation was probably not regarded as altogether satisfactory, for in the temple at Bassæ, built by Ictinus immediately after the Parthenon, it was not repeated.

In buildings without columns and where widths of bays are not necessarily equal, the obvious module is one which will fit evenly both into the building unit and into the distance between the last unit and the corner of the building. The small house of Figs. 1 to 4 inclusive comes under this latter category. The building unit represented by the larger squares is 45 in., and the distance between last unit and corner of building 15 in., or one-third the building unit. Therefore in this case the module equals wall thickness and is represented by the smaller squares. This then, to use the words of Vitruvius, is the "quantity taken from the building itself which should serve as a term of com-



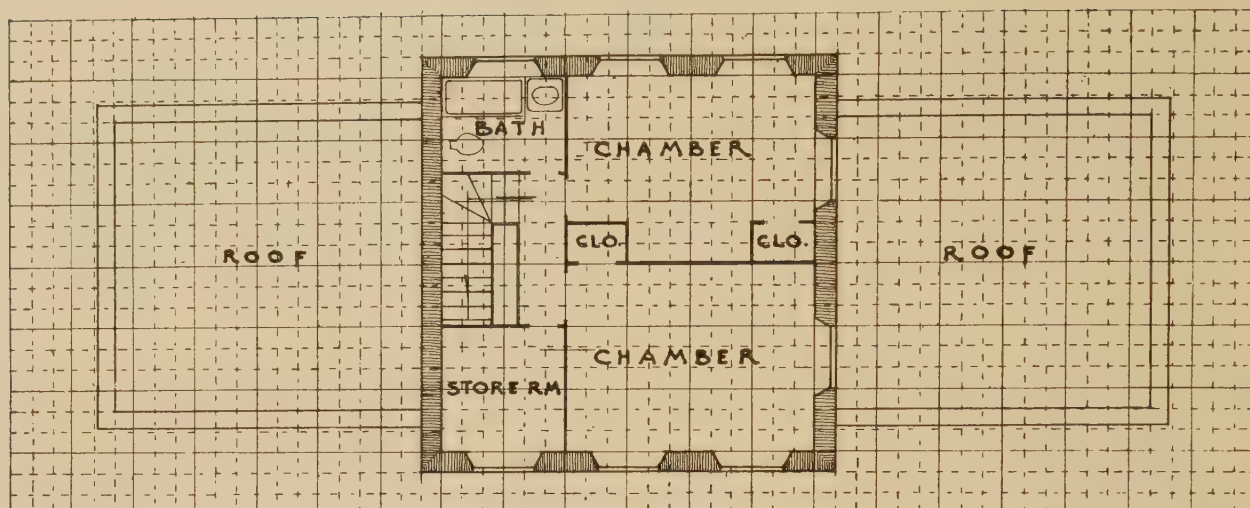


FIGURE 1

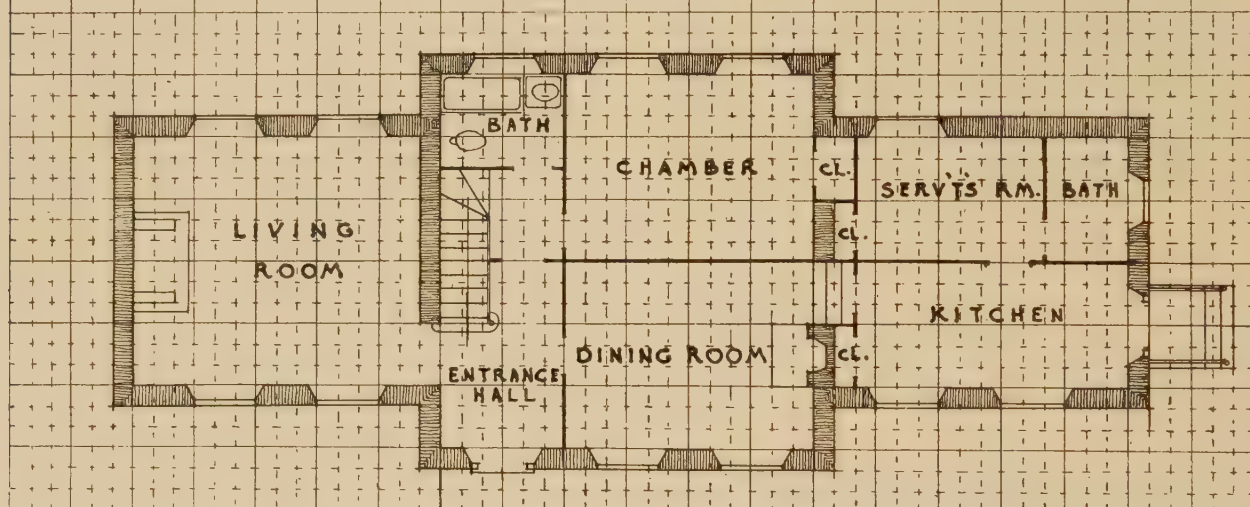


FIGURE 2

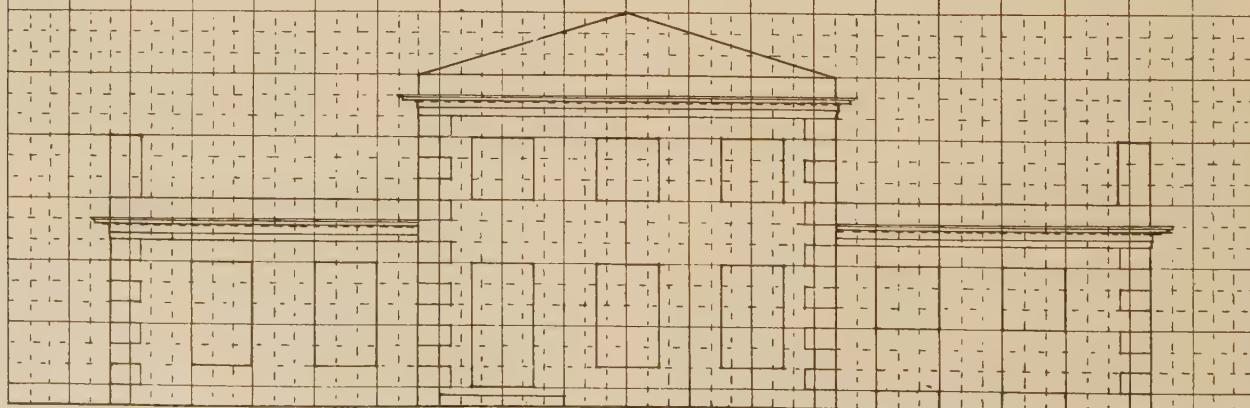


FIGURE 3

*The drawings are made on a paper ruled vertically and horizontally into modules.  
In the original the module represents 15 inches at a scale of  $\frac{1}{8}$  inch to the foot*



parison between all parts and the whole." But the injunction applied most rigidly to temples and other monumental works. It was as evident in Greek and Roman times as it is to-day that, however desirable it may be to carry out the rule rigidly in all types of buildings, it is not always practicable to do so in structures for domestic and commercial uses. Over and over again Vitruvius stresses the importance laid by the Greeks on the observance of exactness, *especially in temples*, where perfection was the aim.

While there can be no doubt that the more rigidly and exactly proportions are observed, the more satisfactory the result, yet workmanship and exactness of the kind found in Doric temples must always be impracticable in build-

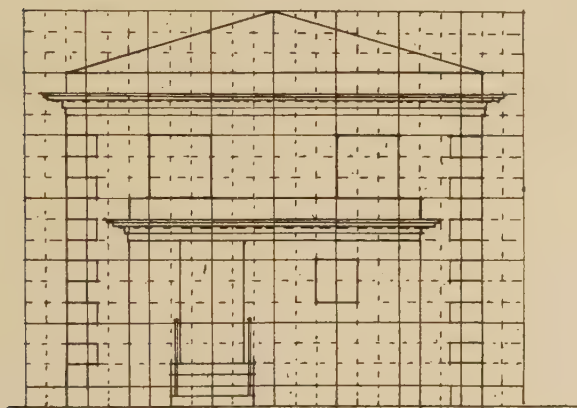


FIGURE 4

ings of a baser sort. But a near approach to perfection can generally be made and even if not absolutely true throughout, most pleasing results be had. Who has not been charmed by the proportions of some old colonial building? It may be the end or side of a house or barn. Formerly it was a mystery to me why some of these old structures should so captivate the eye and others (by far the greater number) be so ugly. I did not understand it until I discovered that it was the habit of many old carpenters and housewrights to deal in round numbers. Buildings would often be laid out with a ten-foot pole, so many poles long, so many wide, and so many high, thus unwittingly obtaining the same kind of proportions which the Greek architect used for his temple. No wonder they please.

Now to illustrate some of the methods I have found most convenient to use in the application of this principle by a concrete exam-

ple, let us take the small house whose design is given. The units employed are those already mentioned and which I have found most convenient to use in designing such buildings, as explained in the last article. The plan (Fig. 2) consists of a square of 20 modules, giving the proportion of 1 to 1, superimposed on a rectangle 14 modules wide and 50 long; proportion, 7 to 25.



*In the central mass* (Fig. 3). Height from ground to top of wall is 16 modules and breadth 20 modules; proportion as 4 to 5.

Height from ground to top of cornice, 15 modules and breadth 20 modules; proportion, 3 to 4.

*In wings.* Height from ground to top of walls, 10 modules and breadth 15 modules (Fig. 3); proportion, 2 to 3.

Height from ground to top of cornice, 9 modules and breadth 15 modules; proportion, 3 to 5.

*At ends* (Fig. 4). Proportions of the main part are the same as in front. Height of wings from ground to top of wall, 10 modules and breadth 14; proportion, 5 to 7.

*Inside.* Breadth in living-room 12 modules, depth 14 modules; proportion as 6 to 7.

Height in living-room 8 modules, breadth 12 modules; proportion, 2 to 3.

Same height to depth, 14 modules; proportion, 4 to 7.

In dining-room and principal bedrooms, breadth 9 modules and length 12 modules; proportion, 3 to 4. Height to beams in these rooms 6 modules and breadth 9 modules; proportion, 2 to 3.

Same height to length of 12 modules; proportion, 1 to 2.

*Openings.* Upper windows 3 modules square; proportion, 1 to 1.

Lower windows 3 modules wide and 5 high; proportion, 3 to 5.

Doorway 3 modules wide and 6 high; proportion, 1 to 2.

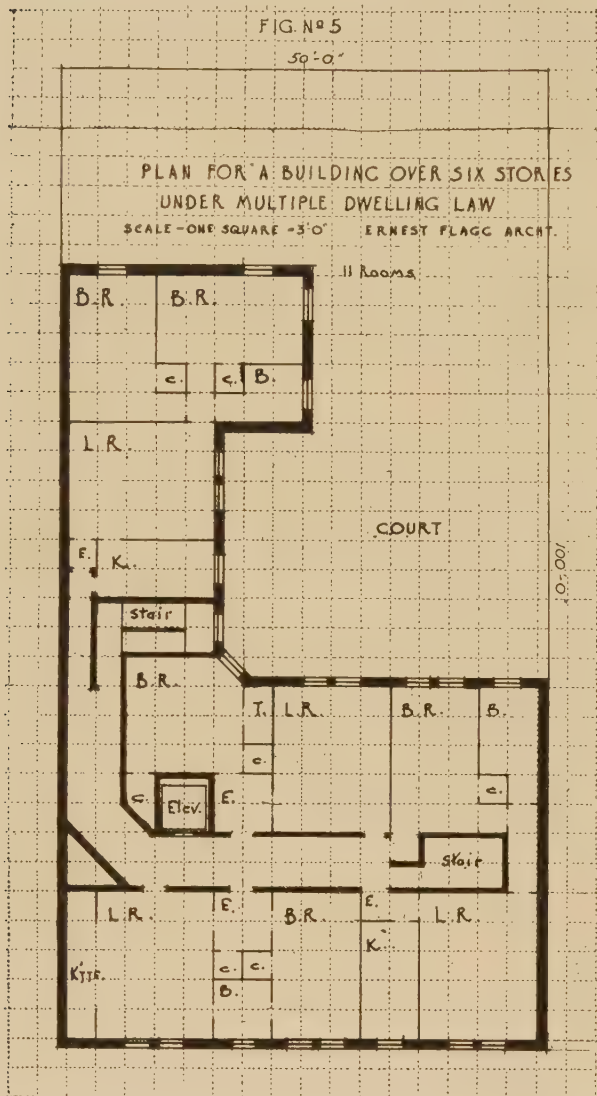


It appears, therefore, that the whole house and all its parts are in what we have called primary relationship. So far as proportions are concerned all is correct. It is a work of art



because it has qualities derived from man's intellect which nature cannot give, but success does not depend wholly on the observance of the rules. To combine correct proportion with

tions are guessed at there is sure to be discord, whereas if they conform to the rule this great handicap is removed. Therefore it is safe to say that a knowledge of the laws of proportion is a great aid in composition and an inestimable boon to the designer. Measurements in the temples make it certain that the simplest possible rule for proportion was used systematically when art reached its highest development. It therefore behooves the artist to understand that rule and he can do so by practice in designing even the humblest objects.



taste requires skill. The observance of the laws of harmony in a musical composition does not necessarily produce a great work of art, but a great work of art can hardly be made without knowledge of those laws, and conditions are precisely similar in works of design. If propor-

The foregoing example illustrates the use of standard units for small houses.

Tenements form another class of buildings in which I have found it convenient to standardize the module. Here the unit taken is three feet and the module one foot, representing wall thickness. It might be thought that differences in size and shape of lots and all the intricate specifications for courts, yards, offsets, etc., of the New York law would render the use of a module altogether impracticable, but I do not find it so. Indeed, I find it vastly easier to meet the conditions with a module than without one. I have made innumerable plans for such structures during the last thirty years and have never found a case where the principle did not prove a help. An illustration of the use of this unit for an inside plot 50 by 100 ft., in a plan which complies with the Multiple Dwelling Law of New York, is given in Fig. 5. Here it will be seen how conveniently the unit lends itself to the plan in furnishing compartments of the various sizes desired, viz: living-rooms, 12 by 15 ft.; bedrooms, 12 by 12 ft., or 9 by 15 ft.; kitchens 6 by 12 ft.; bathrooms, 6 by 6 ft.; corridors, 3 ft. wide, etc. It therefore appears that even in such a building there is no reason why perfect proportions should not be observed both inside and out.

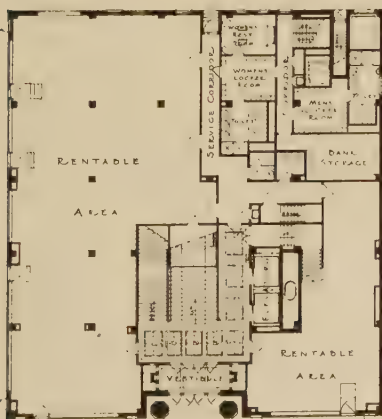
*In the April issue Mr. Flagg's series of articles will be continued, with further explanation of the ease and economy with which his methods lend themselves to the design of a small house.*



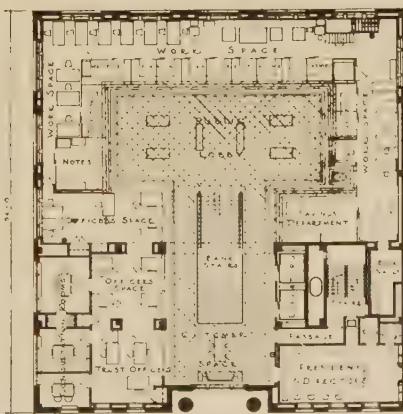




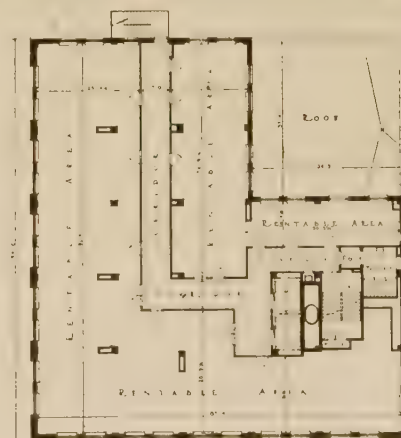
Photographs by Hamilton Studio



First-floor plan



Second-floor plan



Typical floor plan

FIRST NATIONAL BANK AND TRUST COMPANY, HAMILTON, OHIO

CHILDS & SMITH, ARCHITECTS





*Detail of main entrance*

FIRST NATIONAL BANK AND TRUST COMPANY, HAMILTON, OHIO

CHILDS & SMITH, ARCHITECTS



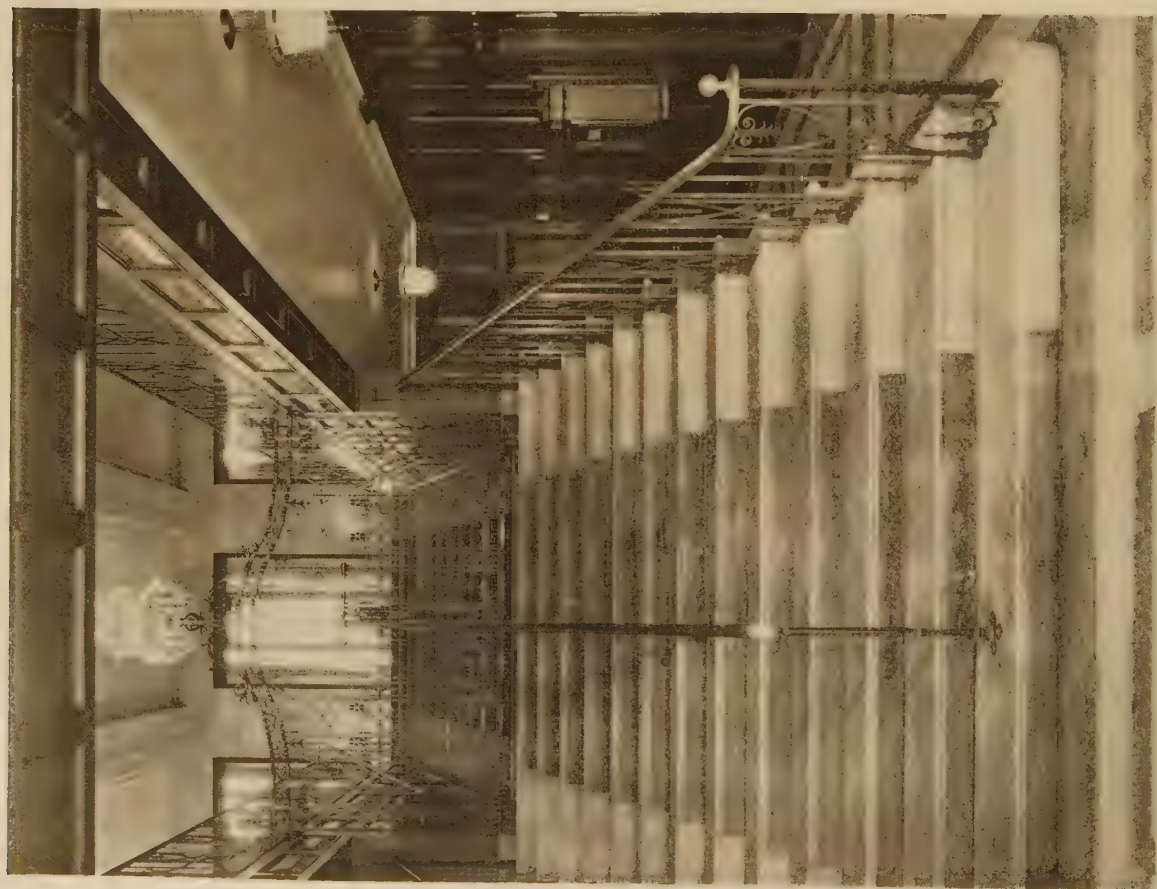


*Customers' space, looking toward officers' space*

*Main banking-room from officers' space*

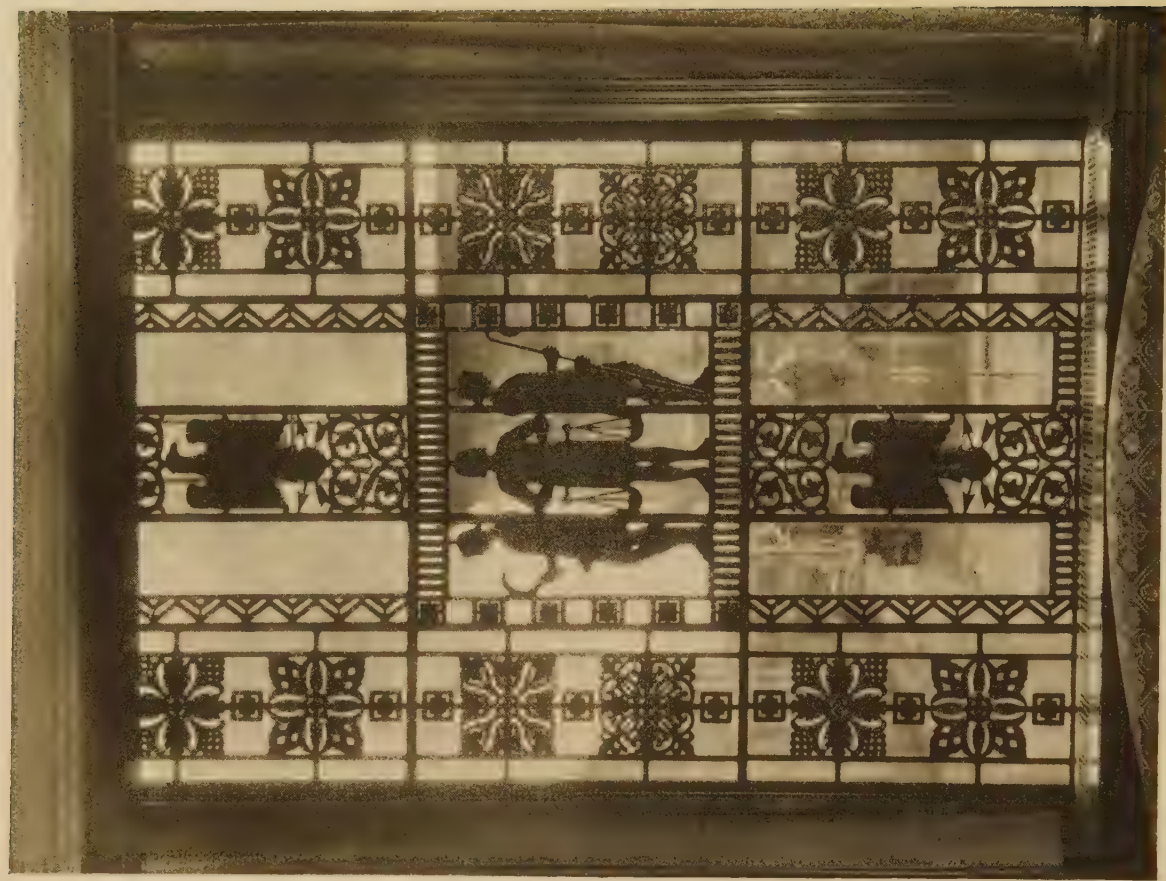






*Main stairway leading to banking-room on second floor*

◀ ARCHITECTURE ▶



*Detail of leaded glass window in customers' space*

FIRST NATIONAL BANK AND TRUST COMPANY, HAMILTON, OHIO

CHILDS & SMITH, ARCHITECTS



*Friday, November 21.*—The A. I. A. directors, meeting in Detroit the other day, added their views to those who are pointing out that the present offers an unusual opportunity for building economically. There are those, both among individuals and institutions, who see this opportunity and are seizing it. An important educational institution in the Middle West is starting to build now, although it has not yet raised the money for its building programme. The theory upon which it is going ahead is that by borrowing money for two years in advance of a bond issue, so as to take advantage of present prices, the saving will far more than offset these interest charges. Moreover, the institution will have the use of its new buildings two years sooner. A situation of this kind is one that can perhaps best be brought to the knowledge of prospective builders by architects. The members of the profession are the trained experts that the public relies upon to see just such situations as this, and keep it informed.

*Saturday, November 22.*—H. G. Wells brought forth an idea the other day as a possible aid to the present period of worldwide depression. His theory is that we have been spending most of our time and energy upon the development of quantity production. What we really need to balance this is quantity consumption, and this latter may be achieved more readily by community buying. The individual, having his income cut or being psychologically depressed, stops buying what we produce. The community, however, needs all that all of us can produce, and more. Why not, then, develop community buying in place of, or in addition to, individual buying? The poor man needs a shelter, and cannot buy it. The community, however, *can* buy it, and by so doing, would help to keep all of us working and producing.

*Monday, November 24.*—Douglas Haskell takes a shot in a recent issue of *The Nation* at the profession's predilection for "a good mass."

"Mass is the chief bogus idea in American architecture to-day. . . . Is it not crazy that an Empire State Building should be riddled with six thousand four hundred separate framed openings just because Mr. Jones's two-story house has a few such things called windows? . . . the Beaux-Arts crowns the blackest plans, and our leading architects go on building solid 'monuments' or statues, and then solemnly and regretfully punching them full of holes. Mass was an accident that happened to live for thousands of years because people were obliged to build in masonry and stone, and there existed no quantity of clear glass. In a word, since we no longer



## The Editor's Diary



build tall buildings, at least in masonry construction, they should possess some other characteristic than 'a good mass.'"

Nevertheless, my feeling is that in the Empire State Building the architects have been signally successful in avoiding that very common fault of "a wall punched full of windows."

*Thursday, November 27.*—This is the day upon which we should give thanks. Lacking, at the moment, the opportunity for thankfulness over plenty of work on the boards, perhaps there are other causes for rejoicing and a grateful heart:

1. That the architect is once again beginning to think rather than to copy—designing in terms of present needs, present methods, present materials, rather than in the ideals of other times and other peoples.

2. That the profession is beginning to see the wide difference between the attitude of mind suggested in the paragraph above and the "modernism" represented by the invention or mere copying of bizarre mannerisms, startling innovations, jazz ornament.

3. That the architect is rapidly emerging from that phase of modern thought that placed functionalism upon the throne as the aim and end of all design; that he is coming to realize that it is not enough to satisfy man's material needs in a building, but that there are æsthetic and spiritual needs no less important.

*Saturday, November 29.*—Lunched with Egerton Swartwout, who spoke of the trouble brought into architectural competitions by novice professional advisers. To most architects the writing of a programme seems an easy task. As a matter of fact it is not so easy as it might appear. Once drawn, its provisions may bring all sorts of complications and even a failure of acceptance by the A. I. A. If professional advisers would use the aids at their command, many of

these complications would be avoided. The Institute publishes a "Circular of Advice and Information Relative to Architectural Competitions" and a "Standard Form of Competition Programme." A preliminary submission of the proposed programme to the adviser's chapter competition committee, or, if necessary, even to the Institute's standing committee on competitions, would avoid many pitfalls that may otherwise confront adviser and competitors later.

*Monday, December 1.*—Lunched with Rayne Adams and David Coyle, discussing the possible trend of city streets of the future. Coyle proposes that motor traffic and pedestrian traffic should be entirely isolated one from the other, possibly by putting street-level stores on the inside of buildings facing upon an arcade, and leaving the outside for motor traffic only, without sidewalks. Parking, of course, would be provided for in the bases of the abutting buildings.

Frank Lloyd Wright dropped in with some material for his forthcoming book, and, incidentally, told me of the horns' nest he stirred up when he was quoted in the Milwaukee papers as saying that their new County Court House in its classical architectural dress sets Milwaukee back fifty years.

*Tuesday, December 2.*—Stephen F. Voorhees, the new president of the New York Chapter, A. I. A., presided at the luncheon meeting to-day, where a large attendance discussed the unemployment situation, and the means being taken by various committees to ameliorate conditions. Robert D. Kohn spoke of the Federal activities, Richmond H. Shreve, for the fund-raising activities in the city under the so-called Prosser Committee, and Julian Clarence Levi, on the activities of the Architects' Emergency Committee. The latter committee has established at The Architectural League an employment bureau through which the neediest cases are to be given emergency work on a three-day basis in drafting for the Architect's Small House Service Bureau. For this work Voorhees, Gmelin & Walker have donated the use of a whole floor in their offices with drafting tables, heat, light, and telephone service.

*Wednesday, December 3.*—E. P. Goodrich was the guest of the editors at lunch to-day, and launched an interesting discussion on architecture and city planning. He was of the opinion that architects in their efforts along these lines have had in mind too strongly the desirability of architectural focal points and grand plazas—perhaps the result of the influences starting with the Chicago Fair of '93. Mr. Goodrich quoted Raymond Unwin, perhaps the most out-



standing figure among architects who have specialized in city planning: "The architect is especially trained to find beautiful forms of expression for practical requirements and to this end should first accept obediently the instructions which should be prepared for him by the sociologist, the economist, and the engineer; and then within the limits prescribed should find a beautiful form of expression in the plan."

*Thursday, December 4.*—Lunched with Rutherford Boyd who has just returned from Chicago. He is experimenting with nitro-cellulose lacquers in the expectation of finding a new medium of art expression in this precocious infant industry.



*Monday, December 8.*—I noticed in a window of the Empire State Building, now nearing completion of the exterior structure, a sign which states very modestly the name of the architects. It is rather an innovation for New York—this public notice of a responsibility and a credit assumed, yet the practice is almost a commonplace in Chicago and other western cities. There seems to be no good reason why the questions which arise in the minds of the public and those more especially interested as to authorship should not be answered in this frank way. The placing of architects' names upon all buildings under construction would assuredly simplify the task of the architectural editor.

*Tuesday, December 9.*—Sris Chandra Chatterjee, A.M.A.E., M.R.A.S., Sthapatya-Visarada, called to-day with a letter of introduction from Claude Bragdon. It was interesting to hear from the lips of one so far removed from western architecture, the impression that it had created upon him. Mr. Chatterjee is a distinguished architect in his own country, India, having designed many important buildings, and quite recently a new house for Rabindranath Tagore. Of American architecture, that which has most impressed Mr. Chatterjee is the commercial work, but of it he says most apologetically that it lacks soul. Its size, efficiency, and mechanical perfection is impressive, but it lacks something that might be called, for want of a better name, spirituality.

*Friday, December 12.*—The A. I. A., through its Committee on City and Regional Planning, is trying to find out whether "character and individuality of cities and regions can be consciously attained." Whereas the character of a Salem, a Philadelphia, or a Williamsburg was marked in the early days of the republic, since America has become the

melting-pot of the world, stimulated by national advertising, its wants supplied in standardized packages by chain stores, there is little reason to believe that we are not aimed definitely toward national uniformity. Climatic conditions and local traditions will help to maintain the individuality, but in these days an office building in Oklahoma is not likely to be very different from an office building in Reading, Pa.

*Monday, December 15.*—Richard J. Neutra, of California, dropped in on his way around the globe. Among the many interesting things he told me of his travels was the fact that he saw among Japanese architects and students more books and periodicals than among the men of any other nation, including the English and ourselves. The Japanese are hungry for information, and take all of the architectural periodicals that they can find. Even though the text is unintelligible to most of them, the pictures mean a lot.

*Tuesday, December 16.*—Yesterday, with J. Davidson Stephen, spent the late afternoon and most of the night hanging the current show at The League—work of the late George Washington Smith, architect. Never before have I seen in one place such a magnificent collection of photographs, not alone because of the unwavering excellence of the subject-matter, but through the artistry of the photographer himself. If I am not mistaken, this show is going to awaken New York to a new conception of what has been going on along the West Coast. It will very probably also give the modernists pause.

*Wednesday, December 17.*—Went up to see the new building which Cass Gilbert designed for the American Academy of Arts and Letters, one façade of which faces the old building of the American Academy of Arts and Letters designed some years ago by McKim, Mead & White. Mr. Gilbert duplicated the McKim, Mead & White façade, since the buildings face one another at the end of the court leading through the middle of the Hispanic Society group.

Then down to see the ceremonies in connection with the opening of the Museum of the City of New York, which Joseph H. Freedlander has just completed. Incidentally, it has in the main lobby one of the finest self-supporting stairways of marble slabs I have ever seen. The city has a splendid museum, but as yet nothing in it.

*Thursday, December 18.*—"We architects get quite a thrill out of discussing the ingenuity of wind-bracing the Empire State Building, but did you ever stop to think of a big modern liner moving down the bay? Here is a steel-framed structure as large as the Empire

State Building, less the outlying base. Every line of her hull is there for a definite purpose. Every hatchway is located where utility requires. Every rivet shows. I ask you if any architect has designed a building that will give you the thrill of admiration aroused by these modern liners?" Thus spoke Raymond Hood in introducing Frederick C. Palen, of the Newport News Shipbuilding Company, who talked to us at The League on Transatlantic Ship Forms and Design.

*Friday, December 19.*—Ellis F. Lawrence, Dean of the School of Architecture and Allied Arts, University of Oregon, writes me that he was interested in our discussion of architectural education at The League as reported in the *Diary* for October 23d. He says: "Of course, systems go wrong, but the teacher really is the key—isn't he? Given an inspirational teacher, all is well, if he is free to do his will, and the student is left free to develop his own mind and talents. The new president of the University of California, Robert Sproul, said recently to his student body: 'Seek not to learn—but to think. Seek not to accept—but to question and solve. Your best test for a successful college education is ever to ask, and to answer the question: "Is it true—and what of it?"'"



*Saturday, December 20.*—Fred T. Ley, a New York builder who recently returned from Europe, says that in spite of the fact that land is comparatively cheap in most European cities, they are putting up high buildings, probably influenced by our own vertical efforts. The services of some American architects are being employed, and a number of experienced American builders, teaching American construction methods to Europeans. Mr. Ley says that structural steel work is handled over there exactly as it is with us, excepting that the continental European, not being a baseball player, does not attempt to catch his red-hot rivets in a bucket, preferring to relay these from furnaces to riveters by hand.

*Monday, December 22.*—There is evidently a real need for uniformity in mortgage laws throughout the various States. The present situation, in which the laws differ widely, naturally restricts the flow of mortgage money from one State to another where it might be more advantageously placed. There is a Uniform Mortgage Act, which has been endorsed by the American Bar Association, National Association of Real Estate Boards, American Title Association, and other authorities. Incidentally, it



provides a mortgage form of one hundred and fifty words instead of the present forms of several thousand words.

*Wednesday, December 24.*—The editors of one hundred and fifty-five technical, trade, and service publications have pooled their opinions as to the present trend of business with a composite opinion in part as follows:

"Aggressive merchandising of services as well as commodities, new products developed through research to meet specialized needs, the invasion of style into the field of staple commodities, reduction of both manufacturing and selling costs through further mechanization of industry and trade, continuation of the philosophy of employed labor at high wages as a fundamental basis for purchasing power, further stabilization of industry by the regulation of production to measured demand, possible changes in government relations to private enterprises and of government supervision—these are the major trends for 1931.

"In the building field, the use of materials not formerly employed in building construction is to be expected in 1931, with special attention to new methods of construction to reduce costs as well as a development of new materials and special products. An effort will be made to modernize the distribution of building materials through development of merchandising principles in the lumber trades. . . . Plans for home building on the instalment basis promise to play an important part in re-establishing the field of small-house construction," with possibly a movement to reduce the second-mortgage evil by long-time, high-per-cent, first mortgages based on reliable appraisals to stimulate small-home building.



*Friday, December 26.*—The National Building Units *News* prints a particularly succinct article in its November issue entitled, "Nothing to Sell!" Here is part of it:

"The tradition of the architect is as old as Babylon. His leadership has never been in serious dispute. Yet today the architect is confronted with a situation of difficulty unknown to his historic brothers who built the pyramids and the Acropolis. The growth of specialization from a complex welter of building problems, the additional volume of detail caused by modern emphasis upon water-supply, heating and insulation, and the amazing variety of new materials and new technics, all have combined to throw upon the architect's shoulders the varied problems of a general staff of technicians.

"In spite of this growing complexity

and specialization, it is vital that the leadership of the architect—as an architect—be maintained and strengthened. The tradition of architectural leadership is a human heritage of proven value, and it has never been more badly needed than at the present time, when the artistic unity of buildings is apt to be lost sight of in undue emphasis upon the special functions of their parts.

"To help the architect in maintaining his heritage of leadership . . . manufacturers will have to raise their standard of service to the architect to the height of the architect's own standard in serving his client.

"It is hardly necessary to say that this cannot be done at all from the usual standpoint of intensive salesmanship, a standpoint utterly alien to the expert. The architect is not a salesman, but a creator, an interpreter and a supervisor. Too great a part of his time is demanded when he himself must segregate the helpful facts regarding building materials from the chaff of sales-talk and personal coloration added by manufacturers' sales representatives. The architect has nothing to sell. He receives a compensation for giving—giving his creative ability, his experience, his authority as a commercially disinterested expert. The building material manufacturer has his material to offer, but in attempting to 'sell' it to the architect, in the sense that goods are sold by one commercial firm to another, he limits his usefulness, takes unnecessarily from the architect's all too limited time, and compels an architectural listener to discount a part of his conversation as selling talk.

"To serve the architect as he should be served, the building material manufacturers must develop the capacity of their representatives as expert consultants on the product offered, and its correct use and relation with other products in the architectural scheme."

*Saturday, December 27.*—The automobile industry displaced the building industry for the first time in 1928 as the largest user of steel. For 1930, building and construction work again took the lead, putting the automobile in second place, and the railroads in third place. The amount of steel going into building construction was about 19 per cent of the total of all steel made during the year.

*Monday, December 29.*—Lunched with Harry Leslie Walker, David Coyle, and Robert Wiseman, the last named of whom made the point that while the principle of the setback is almost universally accepted, with its degree of prevention of light robbery, we apparently make no provision for robbery of light through the use of light-absorbent wall materials. For example, there is a building in the centre of New York built of a very dark red porous brick

which unquestionably darkens the buildings across the street from it far more than would the addition of five or six more stories on the building line. On the other hand, as Coyle pointed out, the use of a white glazed brick is sometimes as disturbing with its reflected glare. It would seem, therefore, to be a rather nice matter to insist upon a restricted range for the light-absorptive factor. With the additional complication of the orientation involved, possibly such matters as these can be handled only through the arbitrary control of an architectural commission.

*Tuesday, December 30.*—*The Nation* issues once more its "Honor Roll for 1930," listing the names of Americans who have, during the past year, performed some distinguished public service, who have made a contribution to art or to literature, or who have merely done something interesting. Under the heading of architecture are the following three names:

Buckminster Fuller, engineer, of New York, for his pioneering work in developing the potentialities of mass production, new materials, and new engineering principles for housing that is practical, cheap, and of good design.

Henry Wright, of New York, for his attempt to cope with the congested living conditions of the American city.

Eliel Saarinen, now of Detroit, for the delightful character of the Cranbrook School near that city.



*Wednesday, December 31.*—Spent a couple of hours with Raymond Hood this afternoon absorbing his enthusiasm for working out designs in the solid rather than on paper. So far as I know, Hood's method is unique in that he makes the roughest kind of a plan first and then jumps immediately into clay for three-dimensional design, working frequently with René Chambellan, who has an amazingly developed facility for architectural expression in clay. The ease with which he widens a skyscraper by three feet or adds ten stories to its middle—by the simple expedient of cutting it in half with a wire and slipping in an extra section—makes one gasp.

Hood has been trying to persuade the heads of some of the architectural schools that if the students were taught modelling almost as soon as they are taught drawing—not the modelling of acanthus leaves and similar ornament, but buildings in the mass—it is likely that they would find the clay the more facile means of expression.



# Programme of a Competition

**A** FRIEND of ARCHITECTURE, who insists upon remaining anonymous, has generously offered cash prizes amounting to three hundred dollars in a competition which, it is hoped, will serve the purpose of busying for a little while the pencils and hands of designers otherwise not too fully occupied.

*The Problem:* It is required to design a side-wall fixture for an office-building lobby. The location is on a blank wall of marble 12 feet wide and 25 feet high. The fixture is to serve a triple purpose, being a source of light and providing also for the entrance of warm air and the withdrawal of cool air. The size of the lobby is not given, since it is intended that the fixture will be repeated in various parts of the lobby to equalize the lighting, heating, and ventilation. Materials at the option of the designer.

Show front elevation and a combined side elevation and section, at as large a scale as may be satisfactorily presented on the sheet.

*The Jury:* Messrs. Raymond Hood, Harvey Wiley Corbett, and Ralph T. Walker.

*Compensation to Competitors:* On behalf of the donor, ARCHITECTURE will pay to the authors of the three designs selected as most meritorious by the jury, each the sum of one hundred dollars.

In addition to the above awards, ARCHITECTURE will present its bronze medal for excellence in design to each of the three winners.

*Eligibility:* Architects, students, and draftsmen are invited to enter this competition. It is *not* necessary that a competitor be a

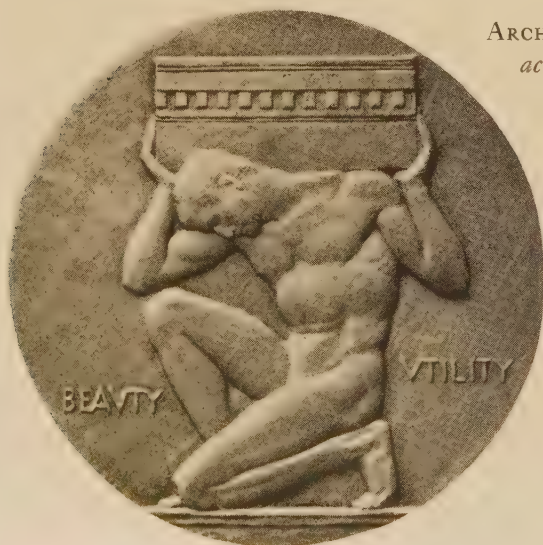
subscriber to ARCHITECTURE. A competitor may submit one or more designs, but not more than one prize will be awarded to a competitor.

*Requirements:* One sheet (paper, not cardboard) only is required for the presentation of each design. It must be exactly of the size indicated in the sketch diagram herewith, the border margins left blank except for the nom de plume or other identifying device. The drawing may be in line or wash, or both, but if in wash it should be in monochrome, preferably in India ink. Indicate all scales graphically. To preserve the anonymity of drawings, each is to be signed with a nom de plume which is



also written upon the outside of a blank white envelope containing the competitor's name and address. Drawings may be sent flat or rolled, and are to be addressed "ARCHITECTURE's Competition, 597 Fifth Avenue, New York, N. Y." The closing time, March 2, 1931, at noon, is for receipt of entries at the office of ARCHITECTURE, rather than the closing by postmark date—this being necessary in order that judgment can be made and the awards published in the following issue of the magazine. In justice to all, no questions regarding the competition can be answered.

Drawings awarded prizes become the property of ARCHITECTURE for publication. Other drawings will be returned to the senders if postage is included.



ARCHITECTURE's medal,  
actual size. David  
K. Rubins,  
Sculptor







# CONTACTS

DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE  
OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES



## A Double Use for Lumber

TWO-INCH PLANK USED FIRST FOR CONCRETE  
FORMS AND AFTERWARDS FOR PARTITIONS

A RADICAL departure from standard construction for apartment partition walls, involving a more effective use of lumber, has been developed in the offices of Schack & Young, architects and engineers of Seattle, and is being used for the first time in an apartment under construction in that city.

The interesting departure from standard practice lies in the fact that the partition lumber is cut to length and first used as forms for concrete construction. It therefore never leaves the location in which it

is first carried as an auxiliary construction material and finally set up for permanent construction.

The construction involves the use of 2-inch by 6-inch tongued-and-grooved Douglas fir lumber, first using it as shoring, bracing, stringers, and soffit boards for reinforced concrete construction, after which it is taken down and built into a mill-construction partition. The great bulk of this material is pre-cut to required finished lengths.

A typical partition consists of the 2-inch by 6-inch set up vertically,

making a solid 2-inch wall. For sound-resistant partitions, this wall is covered with sound-resisting material on each side and plastered. For minor partitions, it may be lathed with wood lath. Where wood lath is used it is furred out by lath strips set vertically at about 16-inch centres to gain a better clinch, and the whole nailed through to the 2-inch by 6-inch core.

This construction is extremely fire-resistant, there being no hollow spaces except those occasionally encountered for housing pipes or ducts,



*Workmen tightening  
wedges under the 2-  
inch by 6-inch  
tongued-and-grooved  
plank used as shoring  
for the concrete floor to  
be poured above*



and these are cut off by the fire-proof floor at each floor level.

Such a partition is extremely resistant to sound transmission. This type of wall is thinner than standard hollow walls and effects a material saving in space.

The economic feature of this construction practice is that all of the floor formwork is used up in the partitions. A single 2-inch by 6-inch, well braced, supports an area of about 15 square feet. Stiffening the entire construction, a row of 2-inch by 6-inch, doubled, is carried down the centre of the span.

A great saving is found in the ease of erecting forms and taking them down, with the almost total absence of waste and elimination of the labor of removing and destroying large quantities of form lumber. Labor costs are very materially reduced.

In regions where freight rates on lumber become a considerable item, it would be found economical to use the 2-inch by 6-inch material for

wall forms, later using it up in the type of partition described above. In the average apartment construction it will be found that with the most extensive use of 2-inch by 6-inch in formwork, there still will remain a small deficiency in the amount of lumber required for partitions.

This form of construction is very simple. Workmen are able to go through with the various steps in using lumber with great speed. As shoring, the 2-inch by 6-inch are first cut to length, then set up and braced, each upright resting on wedges for adjustment which approximate the thickness of the plate to be used. The soffit boards consist largely of 2-inch by 6-inch cut to partition lengths and put together with temporary cleats.

When the forms are removed, the lumber is piled in positions convenient for installation in the partition walls. It has been found that forms so constructed are stiff and unyielding and that the finished soffits and

ceilings are correspondingly straight and true. Records on this building show no concrete loss usually resulting from deflection.

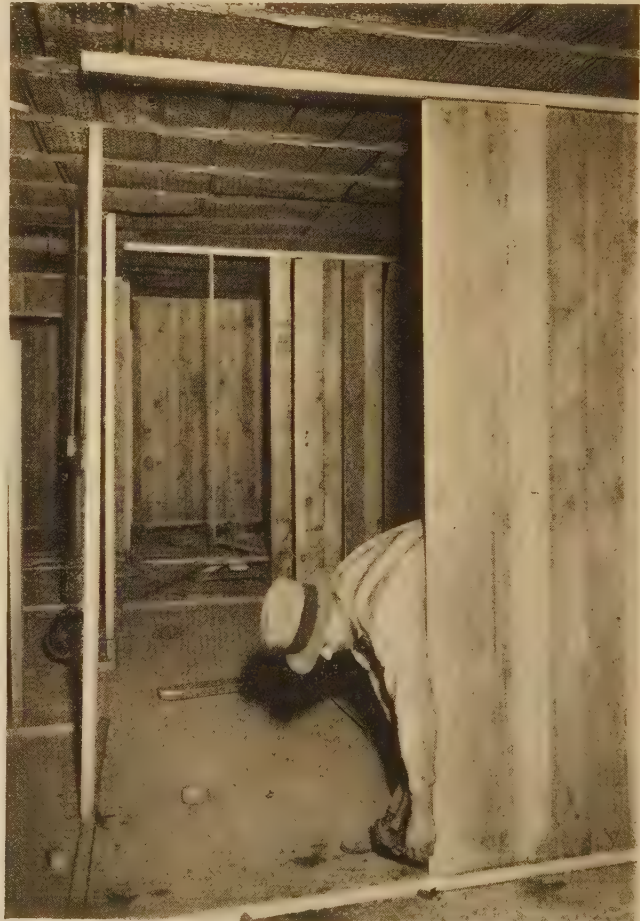
The only waste consists of the cleats and possible odd lengths, most of which are used up in the partitions over doorways and the like. When taken apart, the 2-inch by 6-inch are substantially free of nails, making the reconditioning easy and inexpensive.

When set flush in the wall position, the wall is almost airtight, even before lath and plaster are applied. Space for electrical outlets and conduits are cut as required.

This type of building, which involves concrete floors with all vertical openings fire-proof and openings protected by fire doors, in conjunction with mill partitions, appears to offer a great range of usefulness. The solid partitions are practically incombustible and a fire would be confined to any apartment in which it started.



*After the plank has been used for shoring, it is taken down and piled ready for use in partition walls, having previously been cut to length*



*The plank is finally set up as partitions, being insulated and plastered or lathed and plastered, resulting in a partition thinner than the standard hollow type*





# ARCHITECTURE'S PORTFOLIO OF SECOND-STORY PORCHES

THE FIFTY-SECOND IN A SERIES OF COLLECTIONS  
OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR  
ARCHITECTURAL DETAILS

*Forthcoming Portfolios will be devoted to the following subjects: Clock Towers (March), Altars (April), Garage Doors (May), Mail-Chute Boxes (June), Weather-Vanes (July), and Bank Entrances (August). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up a month in advance of publication dates.*



## *Subjects of Previous Portfolios*



### 1926-27

DORMER WINDOWS  
SHUTTERS AND BLINDS  
ENGLISH PANELLING  
GEORGIAN STAIRWAYS  
STONE MASONRY TEXTURES  
ENGLISH CHIMNEYS  
PANLIGHTS AND OVERDOORS  
TEXTURES OF BRICKWORK  
IRON RAILINGS  
DOOR HARDWARE  
PALLADIAN MOTIVES  
GABLE ENDS  
COLONIAL TOP-RAILINGS  
CIRCULAR AND OVAL WINDOWS

### 1928

BUILT-IN BOOKCASES  
CHIMNEY TOPS  
DOOR HOODS  
BAY WINDOWS  
CUPOLAS  
GARDEN GATES  
STAIR ENDS  
BALCONIES  
GARDEN WALLS  
ARCADES  
PLASTER CEILINGS  
CORNICES OF WOOD

### 1929

DOORWAY LIGHTING  
ENGLISH FIREPLACES  
GATE-POST TOPS  
GARDEN STEPS  
RAIN LEADER HEADS  
GARDEN POOLS  
QUOINS  
INTERIOR PAVING  
BELT COURSES  
KEYSTONES  
AIDS TO FENESTRATION  
BALUSTRADES

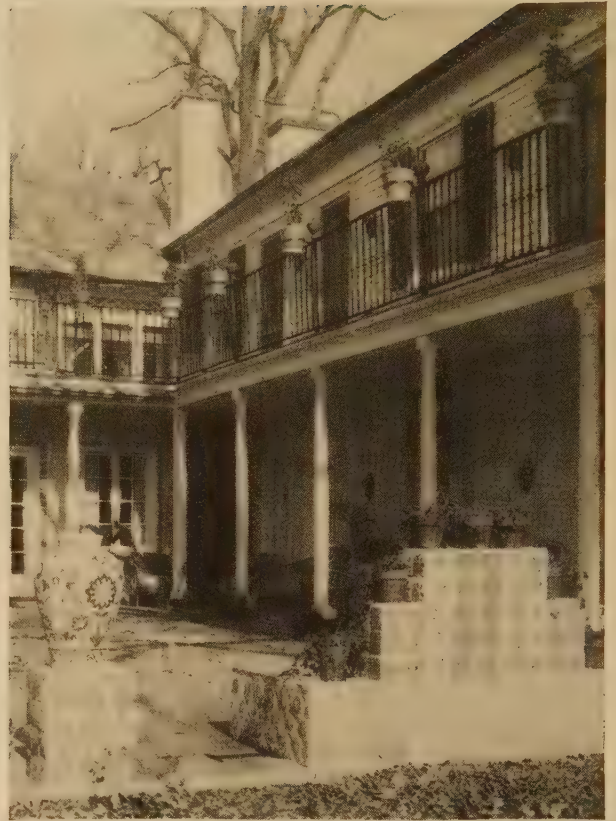
### 1930-31

SPANDRELS  
CHANCEL FURNITURE  
BUSINESS BUILDING ENTRANCES  
GARDEN SHELTERS  
ELEVATOR DOORS  
ENTRANCE PORCHES  
PATIOS  
TREILLAGE  
FLAGPOLE HOLDERS  
CASEMENT WINDOWS  
FENCES OF WOOD  
GOTHIC DOORWAYS  
BANKING-ROOM CHECK DESKS





*Alabama: Warren, Knight & Davis*



*Connecticut: Kilham, Hopkins & Greeley*

*California: Palmer Sabin*



*California: Roy Seldon Price*







*Pennsylvania: Willing, Sims & Talbutt*



*Connecticut: Frederick J. Sterner*

*California: Donald D. McMurry*

*Bedfordshire, Eng.: Sir John Soane*







*California: Morgan, Walls & Clements*



*Pennsylvania: Edmund B. Gilchrist*

*California: Lilian J. Rice*

*California: H. C. Newton & R. D. Murray*







*California: Lilian J. Rice*



*California: Birge M. Clark*

*California: Paul R. Williams*



*California: Masten & Hurd*





*California: Roland E. Coate*



*California: Roland E. Coate*

*California: Masten & Hurd*



*California: Leslie H. Lippiatt*







*California : Edward G. Bolles & Albert A. Schroeper*



*California : Masten & Hurd*

*Beverly Hills, California*

*California : Reginald Johnson*







*California: Roland E. Coate*



*Louisiana: Armstrong & Koch*



*California: Roland E. Coate*







*California: Garrett Van Pelt, Jr.*



*Maryland: Old House in Baltimore*

*California: Roland E. Coate*

*California: McNeil Swasey*







*Long Island: Electus D. Litchfield*



*Illinois: Electus D. Litchfield*

*Connecticut: Electus D. Litchfield*

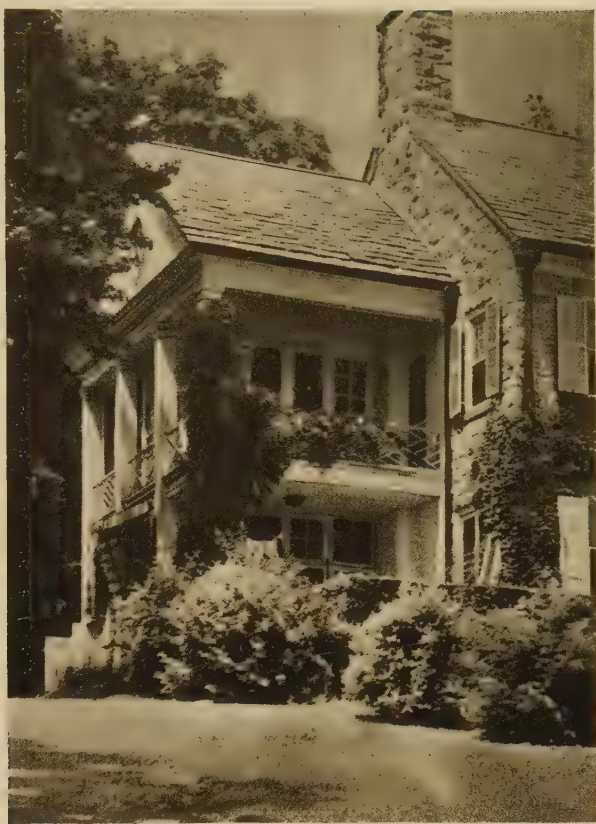
*New Jersey: Roger H. Bullard*







*Virginia: Thomas Jefferson*



*New York: Dwight James Baum*

*Long Island: Roger H. Bullard*

*New York: Robert Wiseman*







*California: John Byers*



*California: Roland E. Coate*

*Gloucestershire, England*



*Florida: Kiehnel & Elliott*







*California: George Washington Smith*



*Florida: Kiehnel & Elliott*

*Long Island: Robert Tappan*

*California: E. J. Baume*







*California: Marshall P. Wilkinson*



*California: Harry H. Whiteley*

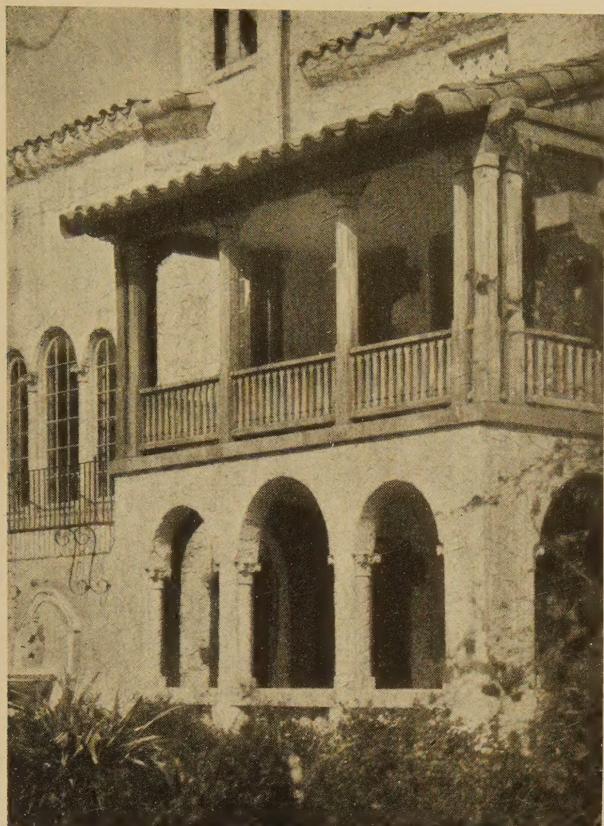
*California: Edwards, Plunkett & Howell*



*California: Palmer Sabin*







Florida: C. W. Fulwell



California: Myron Hunt

California: Roland E. Coate

California: E. M. Sharp







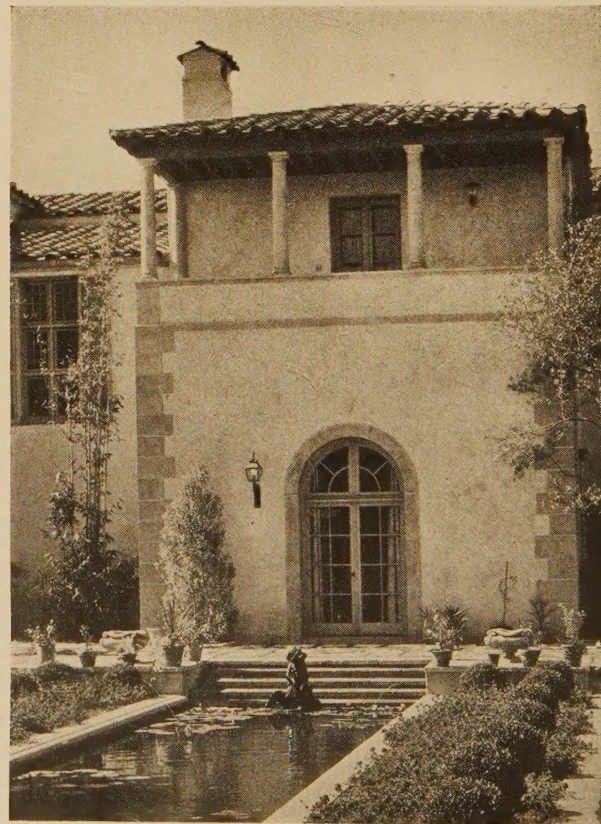
*California: Clarence A. Tantau*



*California: Gordon B. Kaufmann*

*California: Roland E. Coate*

*California: Gordon B. Kaufmann*











PUERTO JUSTICIO, GRANADA

*From the drawing in red chalk by MARC W. THOMPSON*